104

PATENT SYSTEM AND MODERN TECHNOLOGY NEEDS: MEETING THE CHALLENGE OF THE 21ST CENTURY

Y 4. SCI 2: 104/54

Patent System and Modern Technology...

HEARING

BEFORE THE

SUBCOMMITTEE ON TECHNOLOGY

OF THE

COMMITTEE ON SCIENCE

U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

SECOND SESSION

JUNE 6, 1996

[No. 54]

Printed for the use of the Committee on Science

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*Ranking Minority Member
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PATENT SYSTEM AND MODERN TECHNOLOGY NEEDS: MEETING THE CHALLENGE OF THE 21ST CENTURY

THURSDAY, JUNE 6, 1996

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
SUBCOMMITTEE ON TECHNOLOGY,
Washington, DC.

The subcommittee met at 10:11 a.m. in Room 2325 of the Rayburn House Office Building, the Honorable Constance Morella, Chairwoman of the subcommittee, presiding.

Mrs. MORELLA. Everybody seems to be here for this hearing, so I think I am going to commence in the interest of time. So the meeting of the Subcommittee on Technology of the Science Committee will now come to order.

Today we convene the Subcommittee on Technology for the purpose of exploring the dramatic changes that are taking place in our manufacturing sector with regard to the pace at which technological advancements are conceived, developed, and moved into the marketplace.

As product development and market life cycles for many industries have become more and more compressed in time, serious questions are being raised with the ability of our nation's systems of intellectual property protection, particularly the patent system, its ability to cope with the needs of our industrial innovators for cost, effective, timely, and simplified procedures for securing intellectual property rights to new inventions.

This country, with the adoption of our Constitution in 1789, led the world in recognizing the critically important role that intellectual property plays in advancing the economic welfare of the people of a great nation. The patent, copyright, and trademark protection systems which we have embodied in our laws are emulated around the world today, and are the cornerstone of our economic strength in an increasingly competitive world.

The structure of our laws has clearly been adequate to our needs as an innovation society over the past 100 years of technological change. But the future, the world that we will inhabit in the 21st century, will pose challenges to our competitive posture of a type and scope never before experienced.

Among those challenges will be the sheer pace of technological and scientific advancement.

Humanity is now rising very fast on the learning curve, insofar as our understanding of how to manipulate the natural world to our advantage.

This growing base of basic and applied knowledge, which when properly used, advances the quality of life for all of our citizens, brings with it a phenomenon never before seen in human history. Technological breakthroughs going straight from laboratory research to applied products, which leapfrog, not only over that which is on the market now, but also over that which was considered to be the next generation just months earlier by knowledgeable observers in the affected markets.

So needless to say, for those industries in which the time of product development and marketing has reached such rapid turnaround, the ability of innovators to obtain needed intellectual property protection on a timely and cost-effective basis, is critical, particularly where, as in the computer arts, new products can be quickly copied and produced by a competitor.

The U.S. Patent and Trademark Office has for generations oriented upon producing a quality product, a definitive, thorough-research analysis and determination for each patent applicant of whether or not his or her claimed invention represents an article of manufacture or process that is new, useful, and not obvious to one skilled in the art.

But the increasingly compressed cycle time between generations of technology and the sheer quantity of new inventions coming from a growing number of developed nations and societies, raise serious questions as to whether that scope of analysis and protection is appropriate or needed for all players in the innovation markets.

So thus, many have advocated new forms of intellectual property that would be obtainable more easily, with less cost and complexity, than patents for those technologies for which the typical time from application to grant is not compatible with market demands.

We're going to hear testimony from representatives of advanced technology companies today on some of the concepts that might be embodied in legislation.

The Patent Office of course is sensitive to these issues, and it has put forward a far-reaching plan for re-engineering of the patent examination process. Our present Commissioner of Patents, Mr. Bruce Lehman, will lead off our hearing today by giving us the broad outlines of the Office's plans for reducing the time, manpower, and applicant costs that are required to manage the typical application in the 21st Century.

These plans rely in some substantial part upon further advances in the provision of sophisticated automated patent search and application management tools to patent examiners.

To the extent that the Patent Office is successful in meeting its goals for improvements for the system, it will be a model for many other agencies struggling with the need to modernize operations to correspond with society's demands for customer responsiveness.

That doesn't mean it is not fraught with differences of opinion, and that's what this briefing is about today, to look at all sides and how we can move forward.

So I want to welcome all our witnesses to today's hearings, look forward to receiving the benefits of the insights of those who are witnesses, the insights into the challenges for American technological competitiveness in the next century.

And I would now like to, in the order in which they arrive, recognize for any opening statements he may have, Congressman Gutknecht.

Mr. GUTKNECHT. Thank you, Madame Chairwoman. I'll be real brief.

I want to thank you for having this hearing today. This is a very important issue in my district, in fact the entire country.

There is an intense debate raging here in Congress over two competing proposals relative to the reform of the patent system, one being offered by Representative Moorhead and the other by Representative Rohrabacher.

I think everyone agrees that intellectual property, and protecting some of these new technologies and new ideas, is a very, very important thing, particularly as we move even more rapidly into the information age.

I also believe that we all agree that something needs to be done to protect inventors from the problem of potential submarine patents. And it's my hope that this hearing today can shed a little more light on this issue, and help us to clarify our thinking on which direction, or if in fact there may be some compromise out there to be reached, to make certain that we can protect new ideas, new innovations, intellectual properties, from those who would copy them or manipulate the system to their own advantage, at the expense of everyone else.

So I think this is a very important hearing. I'm delighted to be here, and I look forward to the testimony.

Mrs. MORELLA. Thank you, Mr. Gutknecht.

I'd like to now turn to the Vice Chair of the Subcommittee, Mr. Calvert, for any comments.

Mr. CALVERT. Thank you, Madame Chairwoman. Thank you for having this hearing.

This is a very interesting subject to me, being from California where we are number one of course in computers and biotech and a lot of other things. And so this is very important to our state.

Patents, as has been mentioned earlier, have been of great interest to my close friend and neighbor Dana Rohrabacher, and also Carlos Moorhead. So maybe we can enlighten us a little bit, and I look forward to the hearing.

Thank you.

Mrs. MORELLA. Thank you.

As you know, this subcommittee has the oversight jurisdiction over patents and copyrights.

So now let me ask our first witness to come forward. He's going to be solo on this first panel, for obvious reasons, Mr. Bruce Lehman, who is the Commissioner of the Patent and Trademark Office right here in Washington.

Thank you and welcome.

STATEMENT OF BRUCE LEHMAN, COMMISSIONER, PATENT AND TRADEMARK OFFICE, WASHINGTON, DC

Mr. LEHMAN. Thank you very much, Mrs. Morella, and thank you very much for your opening statement, and also the comments of Mr. Calvert and Mr. Gutknecht. You all are in high-tech areas that depend very much on the patent system.

As we all know, we're no longer in the era of big government. We're no longer in the era of massive public expenditures to produce pictures like this that we see around the room. And we're going to be depending on the private sector to keep America strong technologically.

And the very essence of private sector investment in technology is the patent system. That's the property right in technology, which induces the investment necessary to bring it to the market.

So this is a very important subject. I really appreciate your interest in it.

Mrs. Morella, even though California is a big customer base of ours, and certainly probably is the leading high-tech state—it's also the biggest state—Montgomery County is not exactly down there at the bottom either.

Mrs. MORELLA. One of the top three in the country.

Mr. LEHMAN. It's a world center of technology and particularly biotechnology, and a very important customer base for us. So you and I have very much the same constituencies.

The problems that we've just outlined certainly do require a commitment from all of us. And we recognized some time ago, in the Patent and Trademark Office—by the way, I should say also before I get into this that your counsel knows a great deal about this also in that he actually served as the Deputy Commissioner of Patents under the previous administration.

So this committee has a variety of interests, and also obviously has particularly expert advice in counseling it as well. So in case you weren't aware of that fact—and I'm sure you are—I wanted to bring that to your attention.

[Laughter.]

Mr. LEHMAN. The changing circumstances that you referred to certainly require, not only a new look at the patent process, but a constant look at it. We all know that any competitive enterprise in America has to be constantly reinventing itself just simply to keep up with normal change.

But we've had more than normal change in the patent system. We have a new patent term of 20 years from filing that has placed a particularly great premium on timely and high quality examination and responding to our customers' needs and attention.

And in addition, we've had external limitations that have been imposed upon us. For example, we have had personnel limitations. We all are trying to reduce the size of the federal government, and we're trying to do that at the same time that the burden on us increases.

We have had average annual workload increases for at least the past decade of between four and six percent. In the last few years, that's been running over six percent. Last year it was 13 percent. So we had 13 percent more business, 13 percent more patent applications. And of course, we're under orders to restrict our work force and not to increase it. So you can imagine, that automatically brings about a certain burden for you.

And as a result, we have to—we have no choice but to design a better process to replace the conventional strategy of examining patents, which automatically just required doing the same old thing, but adding more bodies to it.

Now, in order to ensure that we are fully responsive to the needs and expectations of our patent applicants, we started out talking to the customers themselves. And we conducted 24 customer focus sessions throughout the United States in 1994 and 1995. Additional customer comments were solicited through a mail survey. And this input identified areas of customer satisfaction, where people liked what we were doing, and also those areas where improvement is needed.

And let me say we also have had a series of public hearings from time to time around the country, where anybody could come and talk to us about a number of these, both administrative matters and very serious policy matters. So I think we have a good idea really where the people who use our services are on a lot of these issues.

Now, from the review of these and other data, it became clear that the existing patent process that was adequate in earlier times could not continue to support current and future demands. So we initiated a re-engineering effort to stimulate the changes necessary for the continuing success of the Patent and Trademark Office.

And let me point out here, there are two kinds of re-engineering. My testimony today is going to focus on what we are doing administratively; that is, under my own discretion to re-engineer the patent system.

We're also in the process—and you referred to it, Madame Chairwoman—of a larger structural re-engineering through the legislative process that Congressman Moorhead, who chairs our authorizing committee, has been working on a great deal. And let me say that that re-engineering process is probably even more critical, absolutely vital to producing better customer service, and also vital to our being able to actually have the tools we need to really make this internal re-engineering a success.

Now, in our internal re-engineering process, five teams of examiners, managers, support personnel, and re-engineering experts analyzed current processes, and they identified areas for improvement that resulted in the adoption of a concept of operations last fall, in November, 1995.

This concept formed the framework from which the re-engineering plan evolved, that was designed to guide our Patent and Trademark Office into the 21st Century.

Five goals form the broad blueprint from which strategies, specific objectives, and tactics have been developed. First, we will reduce PTO processing time to 12 months or less for all inventions. I want to emphasize that. It's PTO processing time. That's the time that we spend processing an application.

To the extent that a patent agent or a patent attorney wants to sit 12 months on a response to our office, or six months, we can't control that particularly. But we can control what we do to try to get that customer in and out of our office, and into the marketplace as absolutely quickly as possible. And we intend to reach a situation in which no one will have us spend more than 12 months working on their application.

Second, we will establish industry sectors within the patent corps that increasing—as you know, when you talk about something like the computer software industry and the computer industry, you know that the distinction between hardware and software becomes increasingly irrelevant.

And so we've had to take a look at how we approach these technologies and these industries. We can't have the guys that work on semiconductors and the guys that work on computer hardware not knowing anything about what the people in the software area are doing.

So we're going to refocus on industry sectors.

Third, we will receive applications and publish patents electronically. And this is absolutely critical to our effort to reduce processing time.

Fourth, we will strive to exceed the quality expectations of our customers. I want to make it clear that none of these changes will result in lower quality. They will result in higher quality. And we can get into that later, as to how that will happen.

And fifth, we will assess the fees that are commensurate with the services provided, depending on customer efficiency. The fee question is one that we have some influence over, but this is also very important for Congress. And right now, we have a fee structure that is, frankly, probably not appropriate to our current situation, and it sort of forces us into some sort of inefficient procedures sometimes.

So we need to take a look at that.

The focus of this entire re-engineering effort is on the customer as a full partner in our process. And to support this commitment, we, in addition to what I described before about our focus sessions and so on, we've embarked upon a series of roundtable discussions with our customers as we go through this re-engineering process, so that we can keep up with their interests and concerns, and get their constant input into our re-engineering plans.

Now, the specific initiatives that are slated for near-term implementation are specifically designed to streamline the patent process. The first of these, as I mentioned, is the establishment of industry sectors that are designed to consolidate related technologies and to incorporate parts of pre-and post-examination functions.

This will enable us to better align resources to meet the needs of industry, especially in the area of evolving technologies.

Initially, six industry sectors are planned to be phased in, beginning in November 1996. And they will cluster together the examining groups with related technologies, using a team approach for managing workloads.

And just as a footnote—my testimony doesn't have this. But for the members who may not be aware of the scope of what we're talking about, our office has this last year revenues, we have no taxpayer—there's not a single dime of taxpayer money that comes into our office. It's all fee-based.

Our fees generated slightly less than $650 million of revenue last year. Congress let us keep about $610 of that. It's a constant struggle keeping that revenue for our own work.

And that supports approximately 5,200 employees, of whom 2,000 are patent examiners. And these are highly trained engineers and scientists in areas like biotechnology that service, for example, Ms. Morella's Montgomery County constituents. Fully half of our over 300 examiners are Ph.D.s in biotechnology—a very sophisticated personnel resource.

And we're going to try to align those resources in a way that will better meet the needs of industries.

A number of significant benefits are expected to be gained from this sector configuration. Resources will be used more efficiently. Cycle time will be reduced. And patent applications will always be immediately available to the examiner.

This will also enable us to customize the patent process to respond to specific industry, and even sometimes customer needs.

Importantly, sector configuration will provide greater opportunity to involve the industry itself in the technological training of our patent examiners, thereby increasing their awareness of trends and technological advancements.

Again, this is an opportunity to brief, to educate this committee. The very essence of patent examining is to be able to determine whether an invention is novel or non-obvious. In other words, has it existed before in the world? Or is it something that just anybody ordinarily skilled in the art could figure out?

It's very important to make that decision, because obviously if you end up patenting something that's already out there, you're actually going to harm technological innovation because you're going to end up giving somebody a patent that will result in a lawsuit to figure out whether this was true or not. People will be spending their money in court, and not in investing in research.

Also, you just don't want something run-of-the-mill, because you want run-of-the-mill kind of activity to go on, and have everybody competing in that area, and not have the exclusivity of the patent grant.

So it's very, very important to have a good examination. And since that's a highly technological determination, you have to have very skilled people who know virtually everything that's out there in that technology in the world, in order to make this patentability determination of novelty and non-obviousness determination.

And you can imagine that in an area where technology is just exploding, and we have a global market, that just keeping up with the information that you need to know to make that novelty and non-obvious determination is very difficult.

But we're on top of it. And this re-engineering is a major part of it.

And we are going to reorganize the patent corps to function in a more businesslike manner to deal with these problems by eliminating cost-added, redundant functions, and affording the applicant one point of contact throughout the prosecution of his or her application.

The consolidation of pre and post-examination functions—that is, getting all the papers together for the examiner and the actual examination process itself—into sectors will help keep the applications in one location from filing to the issuance of the patent. And the same employees will process and maintain control of the application.

We're presently conducting a pilot program along those lines in our design examination group, and we expect to achieve a reduction in our cycle time there, enhanced interaction with our applicants, and better control of our applications.

Now, another initiative is the electronic processing of patent applications. And I can't overstate the importance of this.

In this regard, we're beginning to test a scanning system to assess the capability of using electronic images of patent applications to support the PTO operations. This prototype effort of the patent image capture system will demonstrate the capability of its hardware and software to provide ready, high-volume access to application images for the purposes of routing, viewing, and printing.

Now, our examination process is already automated, in the sense that we already have stored in the computer database of pre-existing technologies, so that an examiner can go right to the computer when he's making an examination, and call up on the screen all the pre-existing U.S. patents, as well as patent documentation from other countries, journal material and other scientific information.

But what is not fully automated yet is the actual process of the application itself. When a patent application comes in, it arrives in paper form. And that needs to be turned into an electronic form, so that we can make that process work more efficiently.

The development of our prototype system for doing this will provide a tested foundation for further development of this very much-needed system.

The anticipated benefits of this electronic application system will include earlier capture of a permanent record of the application the moment it's filed, for use in the preparation of certified copies. And it will help us obtain a security determination for applicants requiring defense agency review.

Another prototype that we initiated just this month is a series of successive pilot tests that test the feasibility of electronic receipt processing, bi-directional communications, and examination of applications. What I just described for you is basically still having the paper application, but then you scan it into the system.

We really want to move to a situation where people actually file their applications electronically. Literally, we anticipate a time in which you will be able to file an application through the Internet, a virtually paperless system.

The anticipated benefits of this prototype will be to involve the applicants that we're working on, in this case, and to obtain their feedback on the merits and problems that are encountered in electronic filing. This information will then be used to decide how to continue the development of electronic filing and processing.

As an important tool to enhance the quality of patent examination, we have begun to provide examiners with improved personal computers—everybody already has one already, but we're in the process of upgrading those—that will give them greater access capability to all the automated patent tools, databases, and information.

Right now, examiners have to sometimes go to specialized work stations for certain purposes. And we're going to have—we're moving to a complete Windows environment where they will be able to sit right at their desks and call up virtually everything in the world that they need, without having to walk down the hall, do anything differently. It will be right there on their desk top—and then to take that information and, you know, cut and paste it into their office actions, and so on and so forth.

You can imagine that kind of technology, which you probably already use in your offices for your congressional mail and so on and so forth—but it's much more difficult to apply in this context—will obviously help us with speeding up the process.

We already have distributed 104 of these new desktop work stations, and we've focused those on the needed areas, the electronic and chemical areas where we have the most stress. And we are going, by the end of the year, to have several hundred additional work stations in place by the end of this year. And within the next year or year and a half, probably all of our 2,000 patent examiners will have this technology.

Now, in January of this year, we've initiated a pilot program concerning examination quality in an industry sector handling the semiconductor technology. This is a pilot in a very important area.

This program is designed to enhance examiner learning through coach/counseling and training on the basis of need. In addition, it seeks the involvement of the applicants themselves in setting the examination quality and standards.

I can't stress how much different this is from the way things were done in the past, when the government bureaucrats were here, and the customers were over there, and the two never met.

A modern system involves constant interaction on a cooperative basis between the customer and the person in the Patent Office doing that work for them. It should not be an adversarial process.

Now, the quality assurance approach that we are taking seeks to improve office actions by making them clearer to the customer and everybody else who ultimately looks at them, and more complete, due to improved searches of the prior art, and a more consistent examination.

It also ensures that each examined application contains a clear prosecution file record, and creates a process for continuous improvement by focusing on employee competencies, and then providing a continuous dialogue with the applicant to evaluate the quality of the process.

We're also evaluating our current fee structure to align our fees with the cost associated with delivering a product or a service. Our current fee structure has remained essentially the same since 1982, with the exception of statutory fee rate adjustments; that is, to deal with increases in the cost of living index and so on.

We plan to examine our fee structure based on research on fee setting strategies, market analysis, and most importantly, soliciting input and comments from our applicants. We expect this project to take about 18 months to complete.

Now, Congressman Moorhead's bill would give us considerably more flexibility to set fees administratively in the Patent and Trademark Office. Let me make it very clear. We don't need more money. That $650 million is plenty. It's just a question of where we get it from, and how we distribute it. That's the issue here.

And we could probably use that flexibility. But at the present time, this is a congressional prerogative, and if Congress chooses to keep that, then obviously we're going to have to come to you and work with you closely with the results of our research so that you can help us modify this fee schedule to provide a better system.

Now, these are our major efforts to improve the patent process in the Patent and Trademark Office. Our re-engineering program demonstrates our recognition of the importance to American inventors and industry of patents that truly deserve the statutory presumption of validity.

And to that end, we are unconditionally committed to providing the best, the very best in quality searches and examination at the most reasonable price possible to contribute to the mission of our Department of Commerce, of which we are a part, to create jobs and opportunities for all Americans.

That is our only goal, the growth of this economy, to keep it the strongest, the mightiest in the whole world. And one of the principal ways of doing that is to encourage inventorship and entrepreneurship in our society, and to help American businesses find new avenues for growth and success.

In conclusion, Madame Chairwoman and members, I'd just like to say that we have a remarkable institution over there in Crystal City, and we'd invite you to come and visit us any time that you might like.

There isn't any other place like it in the world. It's just the largest patent office in this planet. There are only two patent offices that could even hold a candle to us, that even are in the same league, and they are the European Patent Office and the Japanese Patent Office.

Let me just give you a couple of statistics to think about. In those two offices, business is not doing too well.

The Japanese Patent Office, business is flat.

In the European Patent Office, filings are down, and their volume is already less than half of what ours is.

In our patent office, business is booming.

And that booming business is coming from American innovators.

In just two critical areas of technology, one that concerns—they both concern the districts—they all concern the districts that are represented here, particularly California and Maryland.

In biotechnology, last year, we had 13,500 patent applications filed in our office, compared to 1,000 in Japan, and compared to 3,500 in all of Europe. And you saw similar statistics in the computer software area.

So I think that just gives you an illustration. The good news is that American entrepreneurship is alive and well. But its reliance on the patent system is more critical than ever. And so we have to keep this wonderful machine that has been fueling American innovation and growth for 200 years vital and active, and it's a challenge that I look forward to working on together with you in the Congress.

[The prepared statement of Mr. Lehman follows:]

STATEMENT OF BRUCE A. LEHMAN

ASSISTANT SECRETARY OF COMMERCE AND COMMISSIONER OF PATENTS AND TRADEMARKS

BEFORE THE

SUBCOMMITTEE ON TECHNOLOGY

OF THE

COMMITTEE ON SCIENCE

HOUSE OF REPRESENTATIVES

JUNE 6, 1996

Madame Chair and Members of the Subcommittee:

I am pleased to appear today to discuss the Patent and Trademark Office's ongoing efforts and plans to reengineer our patent process. Given the explosive growth in advanced technologies and our commitment to meet the needs of all the PTO's customers, we recognized some time ago that changing circumstances required a new look at the patent process. Moreover, the new patent term of 20 years from filing placed an even greater premium upon timely, high quality, examination and responding to our customers' needs and concerns. An additional challenge was brought about by full-time employee limitations, coupled with an annually increasing workload of between 4 and 6 percent. This restriction called for designing a better process to replace the conventional strategy of increasing staffing resources.

In order to ensure that we were fully responsive to the needs and expectations of our patent applicants, we conducted 24 Customer Focus Sessions throughout the country in 1994 and 1995. Additional customer comments were solicited through a mail survey. This input identified areas of customer satisfaction and those areas where improvement was needed.

From the review of these and other data, it became clear that the existing patent process that was adequate in earlier times could not continue to support current and future demands. Accordingly, I initiated a reengineering effort to stimulate the changes necessary for the continuing success of the Patent and Trademark Office.

Five teams of examiners, managers, support personnel, and reengineering experts, analyzed current processes and identified areas for improvement, resulting in the adoption of a concept of operations in November, 1995. This concept formed the framework from which the reengineering plan evolved that was designed to guide the Patent and Trademark Office into the 21st Century. Five goals form the broad blueprint from which strategies, specific objectives, and tactics have been developed.

First, we will reduce PTO processing time to 12 months or less for all inventions. Second, we will establish industry sectors within the Patent Corps. Third, we will receive applications and publish patents electronically. Fourth, we will strive to exceed the quality expectations of our customers. Fifth, we will assess fees that are commensurate with services provided, depending on customer efficiencyy.

The focus of this entire reengineering effort is on the customer as a full partner in the process. To support this commitment, we have embarked upon a series of roundtable discussions with our customers to learn their interests and concerns, and to seek their input on reengineering plans.

The specific initiatives that are slated for near-term implementation are specifically aimed to streamline the patent process. The first of these is the establishment of industry sectors, designed to consolidate related technologies and to incorporate parts of pre- and post-examination functions. This will enable us better to align resources to meet the needs of industry, especially in the areas of evolving technologies. Initially, six industry sectors are planned to be phased in, beginning in November 1996. They will cluster together Examining Groups with related technologies, using a team approach for managing the workload.

A number of significant benefits is expected to be gained from the sector configuration. Resources will be used more efficiently, cycle time will be reduced, and patent applications will always be immediately available to the examiners. It will also enable us to customize the patent process to respond to specific industry needs. And, importantly, sector configuration will provide greater opportunity to involve industry in technological training of our patent examiners, thereby increasing their awareness of trends and technological advancements.

As a result, the Patent Corps will be organized to function in a more businesslike manner by eliminating cost-added, redundant functions and affording the applicant one point of contact throughout the prosecution of the application. The consolidation of pre- and post-examination functions into the sectors will keep applications in one location from filing to issuance, and the same employees will process and maintain control of the application. We are presently conducting a pilot program along those lines in our Design Examination Group, and expect to achieve a reduction in our cycle time, enhanced interaction with our applicants, and better control of our applications.

Another initiative is the electronic processing of patent applications. In this regard, we are beginning to test a scanning system to assess the capability of using electronic images of patent applications to support PTO operations. This prototype effort of the Patent Image Capture System will demonstrate the capability of its hardware and software to provide ready, high-volume access to application images for purposes of routing, viewing, and printing. The development of this prototype system will also provide a tested foundation for further development of electronic application processing. The anticipated benefits of the system include earlier capture of a permanent record of the application as filed, for use in the preparation of certified copies, and in obtaining a security determination for applications requiring defense agency review.

Another prototype, just initiated this month, is a series of successive pilots that test the feasibility of electronic receipt, processing, bi-directional communications, and examination of applications. The anticipated benefits of this prototype will be to involve applicants, and to obtain their feedback on the merits and problems encountered in electronic filing. This information will then be used to decide how to continue development of electronic filing and processing.

As an important tool to enhance the quality of patent examination, we have begun to provide examiners with improved personal computers that will have greater access capability to automated patent tools, data bases, and information. The initial distribution of 104 desktop workstations to rapidly growing technology areas within certain electrical and chemical Groups was completed this March. Plans call for 700 additional workstations to be deployed by the end of next year.

In January of this year, we initiated a pilot program concerning examination quality in an industry sector handling the semiconductor technology. This program is designed to enhance examiner learning through coach/counseling and training on the basis of need. In addition, it seeks the involvement of applicants in the setting of examination quality standards.

This "quality assurance" approach seeks to improve Office actions, making them clearer and more complete due to improved searches of prior art and more consistent examination. It also ensures that each examined application contains a clear prosecution file record, and creates a process for continuous improvement, by focusing on employee competencies and by providing a continuous dialogue with the applicant to evaluate the quality of the process.

We are also evaluating our current fee structure to align our fees with the costs associated with delivering a product or service. Our current fee structure has remained essentially the same since 1982, with the exception of statutory fee rate adjustments. We plan to examine our fee structure based upon research on fee-setting strategies, market analyses, and most importantly, soliciting input and comments from our applicants. The project will take approximately 18 months to complete.

These then are our major efforts to improve the patent process in the Patent and Trademark Office. Our reengineering program demonstrates our recognition of the importance to American inventors and industry of patents that truly deserve the statutory presumption of validity. To that end, we are unconditionally committed to provide the best in quality searches and examination at the most reasonable price possible to contribute to the mission of the Department of Commerce of creating jobs and opportunities for all Americans, by encouraging inventorship and entrepreneurship, and to help American businesses find new avenues for growth and success.

Mrs. MORELLA. Thank you, Commissioner Lehman. That was an excellent, thorough testimony that you presented in terms of the plans of the Department, and what you've already done in terms of re-engineering, and why you believe it is important.

I would like to pick up on your last statement with regard to Japan and the European community. Why then is there such a tremendous discrepancy among what they are receiving, and what we are receiving in the United States?

Mr. LEHMAN. Well, let me say that the patent system is a national system. Each country has its own patent system. And in order to get a patent, in order to get the exclusivity of a patent, you have to file in a national patent office.

In all of these offices, a lot of the business comes from foreigners. We and Japan are the only two patent offices in the world where the majority of business comes from our own nationals. But the United States is the biggest filer in Japan, and we're the biggest filer in Europe. The U.S. files more patent applications in the European Patent Office than any European country does.

Mrs. MORELLA. We just have more innovators?

Mr. LEHMAN. The first thing I want to point out is that it is a global system. But what you're seeing in these statistics that I mentioned is not that the U.S. is filing more applications. We're seeing that, at least for the time being, it appears that our global competitors are filing fewer.

That obviously goes to issues partly that have to do with how they're organizing their societies, and their research and technological establishments. That goes to larger concerns of the Science Committee. I think it has a lot just to do with American entrepreneurship and so on.

But when it comes to—there are other factors as well. One of the reasons I think that the European Patent Office is having a difficult time is because they're pricing themselves out of the market. It costs about $88,000 to obtain patent protection from the European Patent Office, and there's no cut rate for an individual or a research institution, or a not-for-profit research institution, or a small business.

By contrast, our fees are, for the life of the patent of 20 years—and you pay them over the 20-year period—are $8,000 for companies like General Motors. For an individual, small business, or somebody like the University of Maryland, they are half that, $3,500.

Well, contrast that—$88,000 versus $3,500?

Mrs. MORELLA. You're not counting attorneys, though, are you?

Mr. LEHMAN. No, I'm not, but you have attorney's fees in Europe. And I don't think the prosecution fees are substantially different.

The only place where it is argued that there's a difference, would be if you get into litigation. And by the way, that is why it is extremely important that we do a good job in the Patent and Trademark Office. If we do a good job in the Patent and Trademark Office, there will not be litigation.

By the way, one of the things that Congressman Moorhead's bill does is that it permits us to establish a procedure, a more efficient re-examination in the Patent and Trademark Office so that people can come to us much more cheaply than going to federal court, and review any mistakes that we've made.

Now, we don't want to make mistakes. But we also want to provide more efficient procedures when we do make mistakes. And that's part of this congressional re-engineering that all of you, I'm sure, will be hearing about on the floor sometime later this year.

But I think that gives you—the costs certainly have a great deal to do with the European system. Now, my job is to help the United States be successful, not to help Europe. But if I were advising my

European colleagues, I would say that it's pretty hard for two guys in a garage in Lyon, France, to get a patent on their invention with that kind of a system.

And I think that is one of the reasons I would suggest why you're beginning to see our patent office boom, and the U.S. starting to pull ahead in these technologies.

And of course, in Japan, there isn't small business. It's just great big companies, and they're getting very cumbersome. And it also takes a long time to get a patent in Japan. That is one of the principal problems in Japan; it can take seven or eight years to get a patent. Well, by then, your technology is already out of date.

One of the things that we have been successful in doing is to negotiate a bilateral agreement with Japan, whereby Americans, now, can demand to get their patent processed in Japan in 36 months. So we've started to make progress in opening up that Japanese system for us, and giving us some advantage.

Mrs. MORELLA. I'd like to, Commissioner Lehman, ask you a few basic questions that came about as the result of my discussion with some individuals about the situation.

The number one concern of patent examiners and applicants has been the quality of the work performed in the Patent Office. Isn't it true that both the examiners and the applicants consider a thorough search to be a critical component of a quality work product?

Mr. LEHMAN. Yes. It's absolutely the essence of it.

Mrs. MORELLA. I understand that the examiners, on average spend about a total of about 17 hours on each patent application. Of that total, the time spent reading, understanding, and search the application is about four to five hours.

Do you think that's enough time for a quality job?

Mr. LEHMAN. It depends on the application. We have some applications that are a page long, and involve very simple technologies. And then we have other applications—just to give you an idea of some of the problems we're confronting—in fact these applications are confidential.

But let me say that I would not be surprised if some of them are coming from your neck of the woods that involve recombinant DNA sequence-based inventions, where we are having to send those down to a supercomputer in Los Alamos in order to just run the recombinant DNA sequences. And it may take 60 days of examiner time just to read the output from the computer.

So obviously, it depends on the technology that you're dealing with.

The fact of the matter is that the examiner has to have adequate time to digest the invention. Then they have to have the capability to access all of the relevant prior art, the pre-existing technology.

And the very essence of that is computerization and re-engineering. That's why re-engineering is important.

Now obviously, one approach to handling a problem is always just to add more people on and to take more time to do things, and so on and so forth. But I would suggest that the United States is not beginning to become very globally competitive and pull ahead in a way that is resulting in these good statistics that I mentioned by just simply becoming more expensive, like the European Patent Office, and taking more time to do things.

Clearly, the need is to do a better job, and to do it with less time, and to do it more efficiently.

Mrs. MORELLA. And you think we can do it better than the Europeans, because they take about 17 hours, from what I understand, doing just the search. What makes you think we can do it faster?

Mr. LEHMAN. We're doing it faster now. First of all, Europe isn't even remotely as organized in the information technologies—I mean, computerized as we are.

Just to give you an idea of how cumbersome their system is, they do the examination in the Hague in The Netherlands. Separate people do the search of the invention from the people that actually consider whether the patent should be granted. The search of the new technology is done in the Hague.

And then they send the application papers to Munich in Germany to actually have the examination done. And that happens. They put it in an envelope, all the papers. And they send it down there, and so on and so forth. So I just don't even think that it's in the ball park to discuss comparing us to Europe.

I have to say that a lot of my work, my Assistant Secretary of Commerce hat work involves dealing with our competitors and trying to get a strong global intellectual property system. And so I wish our colleagues in Europe well. The trans-Atlantic relationship is very important.

But let me say, if there were a stock market in economies right now in societies and patent offices, I would not put my money on the European system. I'd put it on ours.

Mrs. MORELLA. I am told that when subclasses have so many patents in them that they're too large to search efficiently, that the Patent Office should perform a reclassification project so as to create smaller subclasses which are faster to search.

Is it true that you're reducing the number and scope of the reclassification projects? And I just wonder, what do you think the end result would be of that?

Mr. LEHMAN. The answer is, yes, we are doing that. And let me just be brutally candid about this, Mrs. Morella.

I suspect that part of the committee's information on this comes from our patent examiners' union. And let me say, I'm very sympathetic with their concerns.

But one of the problems that we have to deal with is that we are all under orders from our stockholders right now, the people of the United States, to reduce the size of the federal government, and to reduce the number of people that work in the federal government.

President Clinton has already reduced the size of the federal work force by 250,000 people. Many people in the majority party on the Hill feel that's not enough. And they want to reduce that even further.

So we have been trying to follow that mandate. And that means that one has to really put your resources where they are needed.

And in that regard, if we have a choice as to whether to put those resources so that we can deal with those patent applications that are coming from these very critical, high-tech biotechnology industries, and the computer software industry, on which the future of America depends, or whether they're going to put those resources into automation, or whether we're going to put them into a 100-year-old classification system, where you do everything by paper, I think you would probably come to the same conclusion that I have. We have to move on and direct those resources to where they are needed.

Now, let me say that I think it is an open question. In your opening statement, you indicated that we should—you said we should have fewer personnel, I believe, to do our work.

I think that we will be able to get by with fewer personnel proportionate to the size of our workload. But I think I have to make it clear that the Patent and Trademark Office will have to grow. We will have to have more people.

And in fact, even though President Clinton has reduced the size of the federal work force by a quarter of a million people, in this fiscal year he has given to the Patent and Trademark Office 450 more Full Time Employees (FTE's), 450 more bodies. That's about an eight-percent increase. So I think it's a recognition of the fact that we do need more people.

Now, last fall, when our authorization bill was pending before the Congress, Congressman Moorhead felt that we in the administration had not even gone far enough, and he proposed that the FTE limitations be restricted entirely from the Department of Commerce. And the House of Representatives, in its wisdom, voted that down.

So if you're not going to give us the bodies, then I'm going to have to make these hard choices. And in this case, it was to take personnel away from the classification area, an archaic area that we're going to be changing the dynamic of anyway, and move them into the very critical areas to support America's high-tech businesses.

Mrs. MORELLA. You had a public hearing last Friday, isn't that right?

Mr. LEHMAN. That's correct. It was on this classification issue.

Mrs. MORELLA. Right, exactly.

What did the public have to say at that public hearing?

Mr. LEHMAN. The public who came to the hearing wasn't very happy with a change in the classification system.

Mrs. MORELLA. For what reason?

Mr. LEHMAN. First of all, a lot of the people who came to the hearing were—probably at least half of the people that signed up were—searchers who search in our Search Room. This is a sort of specialized community of people—many of them have been doing this for many years—who have a way of doing business. And that is that they use the traditional classification system that they've grown up with over the last 20-30 years.

And like a lot of people, they would just as soon not change their way of doing business.

Let me say, I'm sensitive to that. If it were up to me, I would not have changed the classification system. Unfortunately, even with—if the Congress is going to say to us that we cannot have more bodies, then we have to move those bodies to the area where they are most needed. We had a vote on that last fall.

So I have to pay attention to what my board of directors says. You're my board of directors. If you say, "You've got to do this job, and you've got so many resources to do it with," I then have to start making choices.

So the people who sort of live off the classification system, as you can imagine, the old classification system, aren't very happy about that.

I'd like to make it easier for them. I'd like to have more of a gradual transition, and push people into this brave new world of doing everything totally electronically a little more gently. But unfortunately, I have not been given the ability to do that.

So if we're going to keep your people happy in these wonderful new biotechnology industries, and the computer software industry, and make certain that we have the Ph.D.s that we need to give them the examination that they need, we're going to have to shift resources into those critical areas. And that's exactly what happened here.

But if you'd like to revisit this problem and help us get those resources, then I would be happy to work with you on it.

Mrs. MORELLA. Well obviously, you know I care very much about the civil servants that you have there and throughout the federal government, and work very much on trying to make sure that the morale is high, and that there is some security in the kind of work that they do.

Mr. LEHMAN. Let me say, I think morale is high at the Patent and Trademark Office right now. Obviously in any organization of 5,200 people, there are some people who are disgruntled. But I think generally speaking, morale is pretty good.

Mrs. MORELLA. I hope you can appreciate some of the line of questioning that I've asked. I felt it was very important that we bring out some of these issues.

I am going to ask you some more questions, but before I do that, I certainly want to recognize Mr. Calvert for questioning. And Mr. Gutknecht will be coming back.

Mr. CALVERT. Thank you, Madame Chairwoman.

I'm interested in what you're having to say, Commissioner. Obviously time is a very important subject here, because my friends in the biotech industry, the software industry tell me, as you well know, that the technology is changing so rapidly that the patent process has to keep pace, or the technology is out of date almost in months in some cases, especially in the biotech industry.

And that's why the need to, in some instances, have some type of patent protection in a very short period of time, very rapid period of time, because the competition is fierce out there. Many people working on the same types of technologies, and coming up with the same types of solutions and so forth almost instantaneously.

I'm sure you're sensitive to that, and working toward some type of solution for those particular industries where time is of utmost importance.

Do you work with industries such as the biotech industry, or maybe the software industry, differently than some other type of industry?

Mr. LEHMAN. Well, as I indicated in my testimony, we try to work with all of our customers. First of all, the very focus, the very essence of our re-engineering is to reduce processing time, and maintain high quality, and improved quality.

And as I indicated, we've had all kinds of involvement with our customers, starting out with a very sort of scientific series of 24 focus groups all over the country with different users of the system. But we've also had industry-specific hearings. And I mentioned those earlier in passing in my testimony.

The first thing that I did when I was appointed Commissioner, almost right off the bat, is that I went out to California, and I had a series of hearings. And I had hearings for the biotech industry, and I had hearings for the computer software industry.

And those hearings, really, were the foundation of everything that we have done in the last three years. You know, Americans are pretty demanding. It's hard to keep everybody happy all of the time. No one knows that more than a member of Congress, who has 500,000 constituents, and it is humanly impossible to have every one of them happy with you all the time. But you try to do your best to keep everybody happy as much of the time as you can, and particularly in these very critical areas.

And I feel very confident that we have done a good job in these industries of doing that. For example, in the biotech area, we have issued a series of guidelines on the examination of biotechnology for examiners that have just reduced many, many of the problems that biotech companies were having.

We had examiners that thought that they were engaging in peer review, not patent examining, and they were giving people a hard time about whether their invention was useful or not because they didn't have five years of human clinical testing to show that it would exactly work as they proposed that it would be, and so on and so forth.

And we've eliminated all of that. And I think that's gotten real good reviews in the biotech industry.

In the computer software industry, the reforms that are embodied in Congressman Moorhead's bill, some of which have already been passed—20-year term, 18-month publication, re-examination—those directly came out of the hearings that we had with the computer software industry in California.

And if you look at the support for those reforms in industry groups, virtually every major organized industry, organization in the country, from the American Manufacturers Association to the American Electronics Association, Software Publishers, Business Software Alliance, right on down the list, supports those reforms that Congressman Moorhead has been working on.

And that says something else about this too, and why I welcome this opportunity, and certainly this committee's subcommittee under the leadership of someone like Mrs. Morella, who has been always very, very bipartisan.

This is a bipartisan issue. There's no Democrat patent policy and Republican patent policy. And we have worked very, very carefully with our constituents, and we work with our authorizing committee, the House Judiciary Committee in this case, to try to really meet industry needs. And we really look forward and welcome this opportunity to bring you into that process, too.

Mr. CALVERT. We certainly do not want the Patent and Trademark Office to act as another FDA. We have enough problems over there already.

But the other question I have is, moving to the end of the patent process. Somebody receives their patent. A big problem, as you know, in the entertainment industry, in the software industry, and in some instances in the biotech industry, international theft.

I don't know if you have any comment on that. Now we're debating MFN with China, and so forth. Obviously China has been found to, in some cases, steal technology from the United States and copy that technology and sell it in the black market in various countries around the world.

What does your office do in that type of an investigation in working with the Department of Justice and other departments to try to stop this type of behavior?

Mr. LEHMAN. Well, my formal title is Assistant Secretary of Commerce and Commissioner of Patents and Trademarks. And my job really falls into two halves. I would say one is the Assistant Secretary half, and the other is the Commissioner half. I've been talking to you mostly today about the Commissioner part; that is, being the CEO of the Patent and Trademark Office.

But the rest of my time, about half of the time I would say, I spend on exactly the issues that you're talking about. And that is working with my colleagues in the administration to try to get global respect for American intellectual property.

And it's a big task. We've made a lot of progress. We passed an enormous milestone in the TRIPS Agreement that was part of GATT, where now we have all countries in the world—many countries had no patent systems at all. Now all of them have to have patent systems. They had no effective copyright systems; now they do.

And we're working now on making them live up to those agreements. Of course, China is not a part of the GATT agreement. One of the things we're doing is, we're making it clear that they will not be a part of the WTO unless they start to live up to the bilateral agreement that they have made with us which imposed on them TRIPS-level standards in the area of intellectual property.

And as you know, we currently have ordered the assessment of 100 percent tariffs on up to $3 billion worth of Chinese imports in this country to try to send them that message. It's something that we intend to continue to work.

I would say, on the policy side, there is no higher priority than to get every other country in the world to enforce U.S. intellectual property rights. This is what we sell to the world.

We have in our office, in the Office of Legislative and International Affairs—it's really more international affairs-at any given moment, we have attorneys in some country in the world engaged in bilateral negotiations, working with U.S. industry to identify problems.

Sometimes they're on their own. Sometimes they're there with USTR, the Trade Representative, where we need the clout of USTR, to inform them, if they don't live up to their agreements and provide effective intellectual property, that there will be a price to pay here in access to our market.

And then, we also are constantly having to work on creating new norms to deal with these new technologies. You know that the TRIPS agreement was a snapshot in time. Already, these high-tech industries are advancing beyond where that was. And so we find, for example, in the area of copyrights, that a lot of the rules about how copyrights are to apply in international cyberspace are very, very unclear. And that gives people who want to steal our intellectual property an opening.

In fact, just last week I was in Europe, at the World Intellectual Property Organization in Geneva, where 150 countries decided that we would have a diplomatic conference this December to write new rules for copyright in cyberspace, so that we can update those norms to provide effective protection for our U.S. intellectual property, and the property of other advanced countries, in this new environment.

So that is a constant process that takes a great deal of my time and energy, and the time and energy of related administration organizations, the International Trade Administration in the Department of Commerce, the U.S. Trade Representative's Office and the Department of State.

Mr. CALVERT. Thank you.

I have no other comment, other than to point out because Mr. Gutknecht and I were talking about on the 250,000 reduction in personnel, I think over 95 percent of that came out of the military. So I just wanted to make that clear.

Thank you.

Mrs. MORELLA. I'd like to now recognize the Chairman of the Full Science Committee, who has joined us, Mr. Walker, for any comments.

Mr. WALKER. Thank you, Mrs. Morella. First of all I want to thank you for having this hearing. It's on an important topic at an important time.

It seems to me there are two fundamental issues that strike me as being important. First of all, the next century is going to be characterized by vastly more entrepreneurial activity—small businesses people acting on their own, inventions coming into the marketplace in largely niche markets, and so on.

And one of the things that we have to make absolutely certain of is that whatever we do in patent law, that we protect the small entrepreneurial type of businessman who is bringing the real dynamic into the economy. I'm hopeful that any of the things that we do are done in a way to assure that.

Secondly, you mentioned this in your testimony just a few minutes ago, is the need to assure that we can respond with the rapidity that is necessary to take advantage of what's happening in the technological world. I couldn't agree more. I mean, GATT has already been left behind by technological development, and there is a need to be able to keep pace with all of that.

In light of that, there's been some problem in the past in the Patent and Trademark Office in getting automation done in the office, that the unions have not necessarily responded positively to that. Can you tell me what the response of the professional association has been to your re-engineering plan; i.e., the electronic filing and desktop work, word processing, a lot of that kind of thing that you're doing?

Mr. LEHMAN. Mr. Chairman, I regret to say that the Patent and Trademark Office Professional Association has opposed nearly every change that has ever been proposed by any commissioner to modernize the Patent and Trademark Office.

Mr. WALKER. And that is still true?

Mr. LEHMAN. And that is still true. And it precedes my tenure, and it's true in my tenure.

I think that you have to remember that, in the case of federal unions, we have 2,000 patent examiners, approximately—these are voluntary. They're not union shops. People pay dues on a voluntary basis. And we have about 300 people or so vote in our Patent and Trademark Office Professional Association election.

And so that is a view that we must take into account. We have attempted to establish a partnership with that union, and with others.

And let me say, our other—we have three unions in the Patent and Trademark Office. We have two locals of the NTEU, and then we have the POPA union.

The NTEU union has been, frankly—and you might find this a bit surprising since they're probably really most impacted by automation, because the people really whose jobs are going to be affected by automation are the clerks, where you're not dealing with paper anymore. And I'd say they have been more receptive to working with us, and we've achieved a pretty good working relationship.

The essence of that basically is to recognize that you cannot put your finger in the dike. Change is coming. No organization can not automate. And so then, what do we do to try to help the employees adjust to that?

And so for example, one of the things that we've done with our clerical unions is that we've established something called PTO University. We've provided after-hours, free tuition, where we have Northern Virginia Community College, and I think maybe George Mason, and some of the local universities are coming in. And we've got literally degree programs where they can get an Associate Degree in Computer Science. They can even go all the way up to a four-year degree.

And this will train them to start using the new technologies. So that's been a very effective program.

I regret to say that, in spite of many of our efforts, that it seems, at least with the element that is represented—and that is in my view not—I don't believe that is the view of the vast majority of our patent examiners, but that that is represented by that particular organization, we've simply been unable to please them no matter what we have tried to do. That's not new in my administration.

Mr. WALKER. I understand that to be true. And I congratulate you for your commitment to the lifetime education kind of concept, which I think has to accompany any of these technological changes. So I'm pleased to hear that.

But if you would, would you reflect to me just for a moment—I'm sorry I'm late, and maybe you've already done this. But would you reflect to me the consequences of not doing a technological upgrade?

I mean, if in fact the union wins the battle, and we are not capable of moving ahead and doing the technological upgrades, what are the consequences of that, not only to the Patent and Trademark Office, but to us as a country?

Mr. LEHMAN. The consequences of that, Mr. Chairman, are the collapse of the patent system, and the patent system is—I mean, I guess I'm a true believer. This is the mechanism.

In my earlier testimony before you came out—I mean, the patent system has been the goose that's laid the golden egg for America for a long time. But it's never been more important than it is now, both because technology is a more important part of our economic growth than it ever was in the past.

I mean, it used to be at least the gold mines and the fields and the coal mines and everything were a big part of it. But more and more, now, just technology alone is the essence of our economy.

And furthermore, we're in an era in which I think there is virtually bipartisan commitment to the fact that government is going to be investing less. And therefore, it is absolutely critical that the private sector investment mechanisms that induce private sector investment and technology work as well as they possibly can.

And the patent system is at the very core of that. If we do not do a good job in our Office, you'll see a breakdown in that. And that, in my view, would just literally be catastrophic for our country.

Mr. WALKER. Let me give you a hypothesis here. Maybe you agree, maybe you don't.

But I would submit to you that the wealth of the future and the economy will depend, not only on technology, but that fundamental in driving that will be intellectual acumen; that in fact the markets of the future are going to be created by those who can manipulate information and technology in ways to create niche markets around the world, and so on.

And that in that kind of atmosphere, intellectual property rights, patents and so on, become vastly more complicated to deal with because you are dealing in such narrow intellectual areas in some cases. And we are going to have a vastly more complicated system, but a vastly more important system, in order to assure that we stay competitive in the world markets.

I don't see how you can possibly do that using essentially a paper-and-pencil mentality.

Mr. LEHMAN. Well, you can't. And in fact, Mr. Chairman, we're a lot like the industries we serve. I mean, these are companies that reinvent themselves every three months. And if we don't do the same thing, we won't be serving them properly.

It's music to my ears to have you recognize the complexity, not only of the examination process, but the global importance of that.

The two elements—and I know there's a different point of view. There are other members of Congress who would like to sort of just keep our system the way it's always been. But the fact of the matter is that we have a global economy, and we need to first make certain that we get people in and out of the Patent and Trademark Office in this country as quickly as possible, and into the arms of investors and bankers, and then into the marketplace, to build jobs.

And then we need to make certain that we have a global system in which, not only do they just get protection, you know, from coast to coast here in the United States, and Alaska and Hawaii and

Puerto Rico, but that they get protection on a global basis, so that people aren't ripping off their technology overseas.

Mr. WALKER. And I agree with that. But the important element of that also is to make certain that, as we move people through the system and so on, it's not just corporate entities that are getting their patents and so on, but these entrepreneurial types.

Mr. LEHMAN. Absolutely.

Mr. WALKER. That they are also included in that.

It seems to me that you're one leg of the stool of government here that needs to be a part of that. There's another piece that's out in Mrs. Morella's district at NIST. I mean, if we are not capable of doing the science that sets the standards for the world, we also fall behind in all that competition. So it's extremely important that we have these various pieces together so that we can both set standards and properly patent then the intellectual material that's being generated.

I thank you for your testimony. It's very helpful. We'd like to help you work through the problems.

Mr. LEHMAN. Thank you very much, Mr. Chairman.

Mrs. MORELLA. Thank you, Mr. Chairman.

Mr. Gutknecht has a series of questions he wanted to address to you, Mr. Commissioner.

Mr. GUTKNECHT. Thank you, Madame Chairwoman.

In my introductory remarks, I talked a little bit about how important I consider this, and I think the entire Congress does.

I also suggested that there is a debate going on here in Congress between two different views, Mr. Moorhead's and Mr. Rohrabacher's as it relates, especially to submarine patents.

I don't want to put you on the spot, but this is the only time that I'm going to have a chance to ask you some questions about that.

First of all, I would just say that I strongly encourage you, and I think your whole idea of trying to limit processing time for patents to one year, I think, is a terrific goal. I'm not certain how well that's going to work. In fact, I'm especially concerned about whether or not you can really process biotechnology patents that quickly.

Can you talk a little bit about the different kinds of patents, and how one—you mentioned DNA and some of the others. Is it realistic to really think that in biotechnology you can move that quickly?

Mr. LEHMAN. Yes, I do, Mr. Gutknecht.

I don't think it's a question of—you know, our country, in everything we do, including the patent system, doesn't have the choice of saying that something can't be done. We can do it, and we will do it.

Mr. GUTKNECHT. Good.

Let me get to that very issue of submarine patents.

First of all, from your perspective, how big a problem is it?

Mr. LEHMAN. The submarine patent problem? It's a very big problem.

Even though the number of so-called submarine patents is small, they can create tremendous havoc. And let me just, if you'll bear with me a second, describe to you what a submarine patent is.

Basically, the purpose of the patent system is to give somebody, very quickly we would like to think, a patent on a hot new idea. And then they go to an investment banker, a venture capitalist, or maybe if they're an existing company, they go to the analysts, and they drive up the stock price, and they issue new stock.

And then they get this financing, and then they expend the research and development funds to take that patented idea and make it a product that goes onto the marketplace and makes them more competitive, and builds jobs, and so on and so forth.

The very essence of that is that the patent should be—you should issue the patent and the patent should get out of the Patent and Trademark Office long before that technology ever hits the marketplace. That's the whole purpose of it.

The submarine patent works just the other way around. What the submarine patent is is, this is a guy that comes up—if you'll permit me to be a little dramatic. This is a guy who was sitting watching Star Wars one night on television, and thinks, "That sounds like a good idea."

And he's an engineer or a scientist with some acumen, and he goes back to his office or laboratory the next day. And he sort of designs some patent that he thinks might fit some future technology that is involving some patent application, which at that point really wouldn't be reducible to practice at all, files a patent application in our office.

And then every time the examiner is just about ready to reject it, he comes in and asks for an extension, and he modifies the claims, and he changes it around, and does this, that or the other thing. And we've literally had some of these that have been kept going for 20 years.

Well, all of a sudden, star wars is a reality, or these kinds of technologies 20 years later. So Mr. Smith and Mr. Jones and other people, these very entrepreneurs that you're talking about there, they've come in. They've patented technologies. They've gone into the Patent and Trademark Office and gotten the venture capital and everything.

Then this guy shows up, and he says, "Okay, I'm ready to have my patent issue now." And under the old system that we had, his rights go back to his first filing date, which preceded this whole thing. And so, rather than, when he gets his patent, show up to the venture capitalists and me, he goes to Mr. Smith and Mr. Jones and all these people that are out there in business, and they're all producing jobs and making our country more competitive.

And he has his lawyer knock on the door. "I've got news for you. My client has a patent in this, and we want you to pay up." And it's an extortion game. It's nothing more than that, pure and simple, an extortion game.

That is just exactly the opposite of what the patent system is all about. That puts a drag on the true innovator. And we have been taking steps, and part of what Congress has been working on, the 20-year term, 18-month publication, re-exam, these are all things that are designed to bring that process to a halt.

And a couple of hundred submarine patents can do enormous damage to thousands and thousands of legitimate people who are out there doing business, and it's a big drain on our economy.

But there also a lot of other reasons for a lot of these reforms. I think Congressman Rohrabacher has characterized this debate as being simply about submarine patents; and indeed, that is part of it. But there's a lot more to it.

There is a fundamental philosophical difference, I think. And that is that it would appear that the point of view that he is representing is that our patent system should be pretty much kept the way it's always been. We shouldn't make any changes, and we should only really worry about patenting in the United States. And we really shouldn't worry too much about trying to accommodate to the world system, or have an easier patent system to work with on a global basis.

These are just differences that we'll have to work our way through. I think in other fora we've made our position pretty clear. And as I say, I think if you look, overwhelmingly, at U.S. industry, big and small, you will see support for these changes.

Now, as I said, you know—any Congressman knows this—that you're never going to please everybody, and there is always going to be some group of people. I think we have done a remarkable job of pleasing the majority of Americans that depend on high-tech policy in this particular patent area.

I don't think you always see that reflected in the debate on the Hill. But I think if you spend more time with us, and with our constituency, you will begin to perceive that.

Mr. GUTKNECHT. Okay. I think you've done a beautiful job of describing the problem of submarine patents. But now, can you talk to us a little about the two ideas in terms of how to solve them? I mean, how does the Moorhead plan propose to solve the problem?

And against that backdrop, you've already told the Subcommittee that the business is booming in the United States. The patent business is slow, or they're falling further and further behind in Japan and Europe, and other parts of the world.

Tell me about, why should we change? How does each philosophical plan attempt to solve the problem?

I mean, we all agree there's a problem. But now let's try and figure out, what's the best way to solve it.

Mr. LEHMAN. Well, we should only change our system if it's in the best interest of the United States and our entrepreneurial community.

First of all, the reforms that Congressman Moorhead has proposed, and the reforms that were started in the Uruguay Round Implementing Act were fundamentally in the interests of the United States. I mean, even were there no international implications, they're in the interests of a better system within the United States.

In the case of a 20-year term, let's start out with that, and how that relates to submarine patents. First of all, I mentioned we've had submarine patents that have stayed in the Office for 20 years. Well obviously, now you can't get away with that anymore, because with a 20-year term in place, 20 years is up, and I'm sorry, it's too late. You're completely out of the system.

You can't keep your patent going year after year after year and keep it secret, and then surface later on, 15 years after a technology is already in use on a widespread basis, and then all of a sudden say you have 17 years more where you can go knock on people's door with your lawyer and torment them.

So the 20-year term, first of all, addresses that issue.

Secondly, the other two pieces of the Moorhead reform package are publication of patents at 18 months—and I believe either you or Mr. Calvert asked me whether we consulted with the high-tech—I think it was Mr. Calvert—community. And I indicated in my administration, we started out with public hearings in California.

We specifically went to the software industry and to the biotechnology industry. In the software industry area, and the computer industry, there was absolutely no question that they wanted to learn at the earliest stage that they could what was coming down the pike in terms of potential patentability.

This is very, very important because, if you're in a position of making investment decisions, you obviously don't want to invest in something that somebody else has. You want to put your money into what's going to make money for you.

And so the idea of publishing patents at 18 months, which is by the way standard international practice—and keep in mind that anybody who is doing business globally is filing patents abroad, and their technology is being disclosed to foreign competitors. So the idea is that we would have that practice here.

And then, if MicroSoft has a patent in something, you know, IBM can go work on something different. Or, more importantly, that guy in the garage that has very limited resources can focus his resources on something where he can in fact get a patent.

And there's another element of it. It works both ways. It's a little bit like, you know, "Don't tread on me." It's a little bit like you're putting your notice out there to the world that in 18 months, if you're that little guy in the garage, you're putting notice out there at 18 months, "Hey, that belongs to me."

And if you read the legislation, it does belong to him. And in fact, if anybody tries to use it, and he gets a patent a couple of months after the 18-months publication, they have to pay a price to him for using that technology. There is a very serious down-side.

Frankly, if the re-engineering that I have spoken to you about here is successful, we really won't as a practical matter have a difference from the existing system, because we will be getting everybody in and out of the Patent and Trademark Office before 18 months. It will only be the rare case where a patent is actually published after—or before it actually issues.

And 20-year term will actually result for virtually every patent applicant in more patent life than they've had under the old system. And in fact, even before we began these re-engineering efforts, the practical fact is that the vast majority—I think over 60 percent—of U.S. patent owners actually receive more patent time under a 20-year regime than they do under the old 17-year, after-grant regime.

And that's because, as imperfect as we have been in the past, we still have the world's record for processing patent applications. And average pendency in our office is only 19.1 months. So you can just do the arithmetic and figure out that most patent applicants actually get more patent time under the new system.

I know a lot of attention has been paid to small inventors. Ironically, if you really look at the statistics, the small guys tend to be the people that get in and out of the Patent and Trademark Office quicker than some of the big guys.

So actually, overwhelmingly, small entrepreneurs actually are getting more patent time out of the 20-year system, and they're the people who can least afford to fuss around in the Patent and Trademark Office for 10 years. They're the guys that need to get in and out of the Office. And we need to get to that venture capitalist to get the financing to make their inventions a reality.

Mr. GUTKNECHT. Let me just finally ask a couple of more quick questions.

But the problem—and I don't want to just bash the Japanese here. But some of those small inventors—we have in Redwood Falls, Minnesota the American Inventors Congress. And it's mostly small inventors. And they've invented all kinds of—some crazy ideas, and some good ideas.

And this is unfair, but I think sometimes there is a characterization that this is sort of a debate between the big guys and the little guys. And the little guys say, "Wait a second."

Okay, if you file, if it's published within 18 months in the United States, there are going to be people—and you've already acknowledged that in Japan it's very expensive and it takes a long time to get approval.

What's to stop, you know, people from—because a small guy from Redwood Falls, Minnesota, he has a pretty good idea he'd like to ultimately take this worldwide. But he can't really afford in the early stages to file in Japan or other places.

Tell me how that works. How do we get the Japanese to be more cooperative on this?

Mr. LEHMAN. Well, we've made a great deal of progress in that already. We entered into a bilateral agreement over a year ago—and Japan has fully implemented that agreement—whereby today as we're sitting here, there's not a single inventor that comes to the inventors conference in Redwood Falls, Minnesota that can't go to Japan, file a patent application, for the first time by the way in the English language—you used to have to get a translation in Japanese—files it in English.

He can at that time specify that he wants to have that patent application processed within 36 months, meaning, by the way, that he will get effectively 17 years of patent protection in Japan.

He will receive that protection in 36 months. And furthermore, he will receive exclusivity. The biggest problem in the Japanese patent system has been in the way it's been used by the Japanese Kiritsu system to feather their own nest—is that foreign technologies that have come in through the Japanese Patent and Trademark Office, they are published at 18 months.

Then they have slowed down the issuance of the patent maybe for seven or eight years. They can look at all of the technology, and decide how to use it themselves, and then file an opposition, keep the guy—you know, make it very hard for him to get his patent.

Then they come up with a very related technology on which they get a dependent patent. And under the old Japanese system, you could get a dependent patent on an underlying technology, and you had an automatic right to practice the underlying technology.

So they add a bell or a whistle, and our poor entrepreneur, seven or eight years later, gets nothing more than maybe a royalty determined by ultimately some kind of arbitration panel for his crown jewels.

That has been brought to a screeching halt by this bilateral agreement, because, in addition to permitting filing in English, requiring disposition of the patent application within 36 months, we've also eliminated the slowdown processes of pre-grant opposition. And dependent patent compulsory licensing has been abolished.

This was a major—you know, dealing with Japan is a process. I think the recent trade statistics show that we're making progress; we're not all the way there. We have made a great deal of progress in the last few years.

And by the way, the way that we made that progress is that, when I became the Commissioner of Patents, a previous tentative agreement, which had been agreed to by the Bush Administration, which would have automatically changed our system to 20-year term, 18-months publication, and first-to-file, by the way, which was done because big business in the U.S. wanted it because they wanted a more standardized global practice, we took that all off the table—all off the table.

And it was at that point that—and then we went back and we tried to determine, what does American industry really want, really need? We decided that we would work on those changes, and we didn't even make those, even though we needed them—we didn't propose changes in 18-month publication and so on, until we had tied our situation down with Japan, so that we would not be giving them anything without getting something in return, even though it was something that clearly the majority of American industry wanted for domestic purposes.

In the international context, it's very easy to say—and I know Congressman Rohrabacher likes to say that we need to be harder on Japan. But we have had—Congress has not particularly been happy about sending troops to Port-au-Prince. I don't think they're going to send the Marines down to Ginza on a patent dispute.

[Laughter.]

Mr. LEHMAN. So we have to use the tools that are at our disposal. And we have many tools to use. And part of those were to take off the table the reforms that had been agreed to by the Bush Administration that American big business wants, to determine what we really need, and what would be in our interest, and then to use that as leverage to get a very good bilateral agreement with Japan.

And there are issues that we're dealing with all of the time. I mean, the world is not perfect. As I mentioned, we're going to have a diplomatic conference this fall on copyright issues. But we're constantly at work to try to get a better break for the American entrepreneur.

Mr. GUTKNECHT. Just finally one last question, Madame Chairwoman—and we do have to go vote.

But the Vice President recently stated that processing time for patent applications can be reduced to 60 days. Did he talk to you before he made that statement?

Mr. LEHMAN. Yes, he did.

What he is referring to is—you notice in my testimony I said, our new paradigm is going to be that we will take no longer than 12 months of PTO time to process any patent. Nobody, not one single patent, not the most complicated biotech patent will take more than 12 months of our time to process.

In that situation, we would be in the situation where many, many patents, then, would be processed in in effect 60 days of our time. That's our objective. Your outliers would be out there in 12 months. And that's really what the President, Vice President was referring to.

Mr. GUTKNECHT. Thank you, Madame Chairwoman.

Mrs. MORELLA. Commissioner Lehman, before we go to vote—and then we'll come back after about 15 minutes for the second panel—where are you? What is the status now in terms of the development of that electronic filing system? And do you see that there will be any money saving in that?

Also, have you consulted with the Patent Bar in the discussions?

Mr. LEHMAN. Well, we have been consulting with the Patent Bar from day one. We're continuing to involve them in this. We're in the process of developing prototypes for that system, which we will use with specified customers to try to perfect it. And unquestionably, there will be savings.

This is one reason that we need to have our PTO University. We will be putting a lot of clerks out of business at the Patent and Trademark Office. So we will be shortening processing time. We want to train them to do the new jobs that we're going to be having. And obviously, that means we will have a more cost-effective system.

There will also be tremendous cost savings, I think, in terms of the costs the patent applicants have to pay to patent attorneys and patent agents, because it will make the process at that end much easier.

One of the things for example, a lot of our problems in the system have to do with the patent. And not all patent attorneys are perfect, and sometimes they make mistakes. So, you know, materials aren't in the applications. You have to send it back. You have to ask questions—things that should have been in the application to start with.

If you have an electronic system, as you know, a nice little prompt will come up on your screen, and will say, "You can't go ahead to the next line of the application unless you provide the information that's missing." And so that's going to have an impact, making not only our processes more efficient and less costly, but also it's going to make the whole process, we hope, at the patent agent or patent attorney's level more efficient. And that will inure to the benefit of the customer who is the innovator who is seeking the patent.

Mrs. MORELLA. I'm encouraged by the kind of confidence and enthusiasm you have, the re-engineered system that you're considering and moving on.

There will be questions. I would like to submit some further questions for you. And I know other members of the Subcommittee probably would, too. So if you have no objection to that, you'll be getting some questions for you to respond to.

I want to thank you very much for your very candid statements to us today. Your testimony was very good, excellent.

Mr. LEHMAN. Thank you very much, Mrs. Morella. And we look forward to answering your questions and working with you.

Mrs. MORELLA. Thank you.

We will reconvene in about 15 minutes.

[Recess.]

Mrs. MORELLA. My thanks and apologies to our second panel, and those who have been here very interested, for the delay.

STATEMENTS OF DAVID M. OSTFELD, CHAMBERLAIN, HRDICKA, WHITE, JOHNSON & WILLIAMS, HOUSTON, TEXAS; MIKE GRUCHALLA, ENGINEERING SPECIALIST, ALLIED SIGNAL AEROSPACE, KIRKLAND OPERATIONS, ALBUQUERQUE, NEW MEXICO; AND MAURO TOGNERI, VICE PRESIDENT, SENSORS DIVISION, MTS SYSTEM CORPORATION, CARY, NORTH CAROLINA

Mrs. MORELLA. I'm delighted to have you here, and very much appreciate your being here and sharing your expertise and your feelings about this very, very important issue.

So for our second panel, Mr. David Ostfeld, and also Mr. Mike Gruchalla. Did I pronounce that okay?

Mr. GRUCHALLA. Yes, ma'am.

Mrs. MORELLA. And Mr. Mauro Togneri.

Mr. TOGNERI. And you pronounced it right?

Mrs. MORELLA. Did I? Okay, great.

[Laughter.]

Mrs. MORELLA. If that order is okay, then we could start with Mr. Ostfeld, and then do our questioning after that.

[Pause.]

Mrs. MORELLA. My expert on patent and copyrights has suggested that it might be a better idea—and I think he has spoken to you—to proceed right to questioning. So I'm pleased to do that.

Testimony that you have submitted will be included in the record in its entirety.

[The prepared statements of Mr. Ostfeld, Mr. Gruchalla and Mr. Togner follow:]

TESTIMONY

DAVID M. OSTFELD

VICE CHAIR IEEE UNITED STATES ACTIVITIES BOARD & VICE CHAIR OF THE IEEE-USA INTELLECTUAL PROPERTY COMMITTEE

BEFORE THE

UNITED STATES HOUSE OF REPRESENTATIVES

SCIENCE SUBCOMMITTEE ON TECHNOLOGY

ON

THE PATENT SYSTEM AND MODERN TECHNOLOGY NEEDS: MEETING THE CHALLENGES OF THE 21ST CENTURY

I am pleased to testify on behalf of the Institute of Electrical and Electronics Engineers—United States Activities (IEEE-USA). The IEEE United States Activities Board promotes the career and technology policy interests of the 220,000 electrical, electronics and computer engineers who are U.S. members of IEEE.

IEEE-USA appreciates the opportunity to present its views on the patent system and modern technology needs. We hope to contribute a unique perspective to the discussion of new forms of intellectual property for fast moving technology, since the IEEE-USA Intellectual Property Committee, who prepared this testimony, is made up of practicing engineers, entrepreneurs and intellectual property attorneys who are U.S. IEEE members with expertise in the field.

The Constitution of the United States calls for Congress "to promote the progress of science and the useful arts by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries." Based on this, patent and copyright laws were developed. As new concepts and technology have been introduced into the marketplace, there have been many changes to the original patent and copyright laws. In addition, a new form of intellectual property known as mask works was implemented to respond to a specific technological need. Both state and federal governments have also recognized and in some cases have codified common law rights for trademarks and trade secrets. These laws seek to protect inventors and innovators' intellectual property.

As the worlds' largest technical/professional engineering association, with its 220,000 U.S. electrical, electronics and computer engineers and 315,000 members worldwide, we believe that it is our responsibility to seek ways of effectively protecting our members who are the innovators of new technologies. Innovators of new technologies are confronted with a current system which is expensive, sometimes unwieldy and not timely enough, especially for the type of technologies with which our members work.

IEEE-USA believes that it is important for the future of U.S. competitiveness to reduce the cost and complexity of obtaining and enforcing patents so that independent engineers and small businesses will have greater incentive to conduct research and development that lead to useful inventions. For many years we have urged the U.S. Patent and Trademark Office (USPTO) to maintain reasonable "small entity" filing fees, be more responsive and provide greater assistance to all inventors, their agents and their attorneys. IEEE-USA believes that the USPTO has done an excellent job to this end. We have also urged that the USPTO be more innovative in seeking additional sources of revenue from the heavier users of the patent system. For example, additional fees can be charged for subsequent patent assignments and for reviving abandoned applications and patents.

We have also urged Congress not to withhold revenues collected by the USPTO. Congress has recently introduced a bill that would make the USPTO a government corporation. If the USPTO operates as a government corporation, it will finally be able to retain the revenue that it collects from user fees and utilize all of its revenue to the benefit of the patent system users.

While some of the problems concerning the patent system are being addressed, our engineers and innovators are still faced with a very serious dilemma. With the emergence of new and rapidly changing technologies, that may have a useful life of up to 18-60 months, the patent system cannot respond quickly enough to provide the appropriate intellectual property protection needed to adequately protect the innovator, especially very small innovative entities. This is especially true for the U.S., which is known for the success of its small innovative entities—where entrance costs in a business are relatively low and innovation time is the premium ingredient.

Because of existing statutes and regulations, we believe that the USPTO presently has no way of unilaterally solving this dilemma with which our country is faced. On one hand we should be proud of our nation's innovativeness, but we also must recognize the need for new intellectual property rights that fit the needs of our current technological society. There is a strong need to protect innovation that comes primarily from U.S. innovators. The laws have not kept pace with what we call rapidly changing technologies and will certainly not meet the needs of future technologies yet to be introduced into the market.

For example such innovations in circuit technology, artificial intelligence, data bases, the exchange of information through high speed global networks and "adaptive manufacturing" will begin to pose major dilemmas for the intellectual property system as it presently exists.

Circuits are developed so rapidly that new inventions may be obsolete before a patent issues. The life of this type of a product is so short that patent protection extending for 20 years from the date of filing has no real usefulness in terms of a reward to the inventor.

Artificial intelligence and users of self programming circuits are blurring the dividing line between who invents, where software ends and hardware begins. The software/hardware role for any given device may be a variable which is determined only by the application of the device. In this case it would be almost impossible, under present law, to apply intellectual property protection to such a device.

Data bases may become a primary form of intellectual property, yet there is no way to protect them except as trade secrets, and perhaps with copyright. However, in the future even determining ownership of data bases or copying versus use may be confusing.

The use of the National Information Infrastructure (NII) and the transmission of data is becoming incredibly fast. New technologies associated with the NII are being introduced daily and often can not be protected. This is an area where Congress has already begun to address such issues. However, there is a great deal of technology that has yet to be introduced into the market, making "simple" changes to the present law difficult if not impossible.

Finally, products of "adaptive manufacturing" may change form from one copy to the next to respond to user desires, material costs, manufacturer's strategy and designer's innovations. In this environment device specific infringement tests will be difficult.

It is clear that the rapid change in technology and the opening of international markets will affect the U.S. economic position and dictate what must be invented. Changes in intellectual property definition and protection may be dictated from abroad.

While, IEEE-USA is not proposing the solutions to all of these dilemmas, we do believe that the time has come to enact new intellectual property rights that will meet the needs of so many individual innovators, and those who work for small and large businesses. The new market place environment for these businesses are constantly changing and therefore protection needs are immediate.

There is a great deal more risk associated with innovation especially where imitation is a way of life and development and market life are both measured in months—not years. Until a work or invention has been protected by either copyright registration or a patent, competitors are free to take the fruits of the research and development of other companies and imitate them immediately.

Oftentimes, the duplication may be of the actual product while the outward appearance may be different. This type of duplication occurs a great deal in the electronics industry. For many of these products, patent protection may be useless because the patent takes longer to issue than much of the effective product life. The product must be introduced into the market and can not wait for the patent to issue because of technological developments.

It is also our belief that not only has the patent system and the laws and regulations associated with it not responded to the present needs of the intellectual property owners and inventors, but that these laws can not adapt to the speed of change within the market place. IEEE-USA in no way faults the USPTO for this dilemma. We believe that the USPTO is constantly striving to improve the present system and delivery of value added services.

To begin to remedy this problem, IEEE-USA would like to propose the following new intellectual property registration protection separate from copyrights or patents. This protection would cover material that is not copyrightable but may be patentable. The proposed registration would prevent others from copying the useful aspects of original articles. Registration would have to occur before commercialization.

It would not prohibit the registration applicant from filing for a patent for the invention.

During the term of protection, however, if a patent is issued to the innovator to protect the article, the applicant has the option of accepting the patent. If the applicant accepts the patent, the proposed registration would automatically expire and the patent would take effect.

The proposed registration would have a short term of three years. This term of registration would at least allow the innovator to recover research and development costs so that the innovator could enter the commercial market on a level playing field, without immediately being driven out by an imitator-competitor. The innovator must recover development costs that the imitator would never have had to incur.

Therefore, there is no overlap of this proposed right with patents or copyrights. IEEE-USA's proposal for registration and examination does the following:

- institutes only an originality standard for registration,
- makes the examination process much easier, cost-effective and less time consuming by restricting examination to only the material submitted. The test for infringement will be narrowly limited to copying (under the present patent system, the patent application must be subjected to a time consuming search of the prior art and negotiations of such scope against claimed protection. Emerging fields of technology may not have a very good record of prior art),
- provides that distribution of the article without notice of protection would cause forfeiture of the protection,
- begins protection on the date of filing for registration,
- gives prima facie evidentiary value to the facts stated in the registration certificate,
- permits ease of infringement evaluation because the applicant must submit drawings or models which would fully disclose how the article can be duplicated. These drawings or models would be kept confidential for the life of protection,
- provides that protection ends when the owner becomes ineligible by transferring the right to an unauthorized party or receives a patent for the device,
- gives reasonable damages which may be awarded up to $25,000 per infringing device which begins through an Administrative Tribunal using current technology experts for evaluation of infringement to provide quick remedies and discourage copying,
- polices validity by providing that the Administrative Tribunal, established in our proposal, may award up to $10,000 for bringing an action on a falsely obtained registration.

All infringement actions are conducted on the basis of pleadings and other written material before the Administrative Tribunal. Injunctions and appeals, however, go to the U.S. District Court. After the U.S. District Court, an appeal would go to the Court of Appeals for the Federal Circuit.

The proposal is also drafted so that the protection of articles can be administered in an extremely economic manner. This includes subcontracting for examiners outside the U.S. government, finding secure storage for drawings and models of useful articles, and for the general administrative process. The following is a more detailed overview of our proposal.

WHAT IS PROTECTED?

As indicated above, IEEE-USA's proposal would protect "articles," a device that is intrinsically utilitarian and original. Thus the standard for registration is significantly less for patents and excludes copyrightable material by requiring that the articles are useful. Substantial revisions, adaptions and rearrangement of an article are also protectable under registration.

WHEN IS AN "ARTICLE" NOT PROTECTABLE?

Devices which are not utilitarian, have not been registered prior to the date the "article" was sold, offered for sale to the public, or advertised can not be registered. This is to ensure that the device is original and no one else has had access to the technology before the article has been registered.

HOW DOES ONE REGISTER AN ARTICLE?

Innovators would file an application for registration which would be relatively simple. IEEE-USA envisions that a copyright-type application would be used. Filing and prosecution would be substantially pro se, which would dramatically cut costs for the innovator. There would be an oath or declaration stating that the article is original and utilitarian. If there are multiple models of an article, only one registration is required. A detailed description of the device or a model of it must accompany the application. These models would be stored by the administrative agency at the expense of the registrant. The number assigned at filing would incorporate the date of filing and would become the registration number, permitting the applicant to thereafter mark articles covered by the registration. In doing so, the administrative process becomes much easier since no one would have to look up the date of filing to determine the expiration of protection.

TEST FOR REGISTRATION

If the application appears to comply with the information required, then registration is awarded. Under this proposal there is no need to search prior art as one must do under the present patent system. The date of registration is the date of filing. The registration number is awarded at the time of filing so that it can then be used following the date of filing.

EARLIER FILING DATE

IEEE-USA's proposal would offer the benefit of an earlier filing date in a foreign country which affords similar privileges for application for U.S. citizens. A six-month benefit of an earlier filing date is expected.

WHEN HAS AN ARTICLE BEEN INFRINGED?

An article has been infringed when its design is copied in whole or in part from the protected article without the consent of the owner. An infringer is someone who made an infringing article or imports, sells or distributes it.

It is not an infringement to make, import, sell or distribute any device created without knowledge of, and copying from, a protected article. However the burden of proof falls upon the party accused of infringing the rights in an "article" to show independent development. Independent development would indicate that both parties spent funds developing a product and thus would be on a level competitive playing field.

ADMINISTRATIVE TRIBUNAL

The key element for initial enforcement for article protection rights would be an Administrative Tribunal made up of a person appointed by the Commissioner of the USPTO, a person appointed by the Register of Copyrights and a person appointed by the Court of Claims. Depending upon the activity of appeals and infringement actions, there may be more than one appointee, but each panel would consist of an appointee from each of the three.

The Administrator of the proposed system of registration would choose the chief judge of the Administrative Tribunal. There would be a liberal policy for appointing special masters for the various technologies to assist the judges. There would be no requirement that the special masters be employees of the U.S. government.

Accordingly, private contractors may be used, in an attempt to lower costs and to gain up-to-date technical expertise in the field in which the alleged copying occurred. Technical expertise may be needed to determine infringement on a technical basis. While it is anticipated that fees would be significant for infringement actions that involve a three judge panel and special masters, these fees would still be much lower than the normal suit for patent or copyright infringement.

There would be no live trials before the Administrative Tribunal and depositions would be limited to those whose affidavits were submitted before the Administrative Tribunal to establish copying, independent development or lack of originality. Actions with respect to import are also brought before the Administrative Tribunal who may set bonds. Appeals would be forwarded to the Court of Appeals for the Federal Circuit.

REMEDIES FOR INFRINGEMENT

Remedies for infringement will be carried out initially by administrative proceeding. This is an attempt to greatly curtail the costs of an original infringement action and quickly quantify damages.

DAMAGES

The Administrative Tribunal may award appropriate damages adequate to compensate for the infringement but in no event would it be less than a reasonable royalty. As discussed above, the damages may be increased to $25,000 per device infringement.

Alternatively, the Administrative Tribunal may award the infringer's profits resulting from the sale of the infringing articles. Damages would be assessed at a minimum of the gross income that the infringer has received through the sale of the infringing product. In addition the infringer must prove all costs and submit the amount of such sales. Statute of limitation for recovery would be three years from the date of filing of the complaint. The award of costs and attorneys' fees are limited. Further the Administrative Tribunal may order all infringing articles, plates, molds or patterns to be destroyed.

The Administrative Tribunal, established in our proposal, may also award up to $10,000 for bringing an action on a falsely obtained registration to control abuse.

INJUNCTIONS

Injunctions may be issued by the U.S. District Courts to prevent infringement based on final decisions by the Administrative Tribunal. Temporary injunctions may also be issued by the U.S. District Courts based upon preliminary findings by the Administrative Tribunal.

CONCLUSION

IEEE-USA believes that technological change will increasingly become the future norm. This will force manufacturers to deliver their innovations to the market much faster than ever before. For such products which are useful, patent protection will inherently arrive too late. Protection of the type shown in the mask work law must become more important in the future or the U.S. innovator, who is famous for originality, will be left without any remedies and unprotected from predatory copying practices throughout the world.

IEEE-USA's believes that our proposal is one appropriate legislative solution to some of the problems associated with fast moving technologies in the U.S. and the inability to alter current laws to respond to rapidly changing and new technologies in a timely manner. This proposal will give innovators protection they need in the important U.S. market and will do so in a cost effective and timely manner. While we realize this form of intellectual property does not offer as much protection as a patent, it does offer a faster form of protection that will allow innovators to deliver their products into the fast changing market in a safe and protected manner.

We look forward to working with you to provide innovators the type of timely intellectual property protection that they seriously need and to improve the well being of innovation in America while competing in a world market.

Thank you for this opportunity to testify before this subcommittee on such an important issue. I would be happy to answer any questions you may have.

CONGRESSIONAL TESTIMONY

M. E. Gruchalla, May 30, 1996 for June 6, 1996 Testimony to House Science Subcommittee on Technology

Re: My experience and suggestions relating to dealing with the PTO

Good morning.

I am pleased to be here this morning. It is reassuring to see that our Country's leaders truly are interested in the perspectives of the common person.

My previous employer was EG&G—a large, high-technology, international company. About two years ago, the Energy Secretary moved my EG&G working group to AlliedSignal. I am presently employed by AlliedSignal Federal Manufacturing and Technologies/New Mexico. AlliedSignal is also a large, high-technology, international company.

I am an electrical engineer, and I presently have a number of patents, both US and foreign. Some of these were prosecuted by my employer, and I have prosecuted some privately. I may therefore speak competently as an employed inventor both from a company perspective and a private perspective. AlliedSignal elected not to sponsor me in providing this testimony, so I am speaking to you today as a private, independent inventor.

In the course of my personal prosecution of US patents, I have worked directly with the examiners and other personnel of the PTO. In every case I have found the personnel very professional and helpful. Further, I have found them accessible. This is very important to the individual pro-se filers to help them understand and work through the intricacies of the patent process.

I believe that the patent processes can be improved to better protect the intellectual assets of this Country without any increase in administrative burdens on the PTO or any loss of actual revenues. If this is true, our national competitiveness would be enhanced and protected. There are four specific aspects of the US patent process that I as a private, small-entity inventor respectfully suggest be reexamined:

- The triggering of large-entity status.
- The vesting of large-entity fees.
- Small-Entity Maintenance fees.
- More timely protection for fast-moving technology.

Many inventors who pursue private patents of their inventions have full-time employment. When an employer releases an invention to the employee-inventor to allow the employee to pursue patents by his/her own resources, the employer typically retains a shop right or similar arrangement which gives the employer some rights in any subsequent related patents. Under the provisions of the Bayh-Dole Act, independent inventors filing as small entities are given certain relief in terms of reduced patent fees. However, present interpretations in the patent process as prescribed in Section 509.02 of the Manual for Patent Examining Procedure (MPEP) requires that an independent inventor file as a large entity simply if any large entity has virtually any position in subsequent patents even though the inventor is a small entity and even though the large-entity employer will very likely never practice the invention. Since my employers, AlliedSignal presently and EG&G previous, are both large entities, I must prosecute any inventions released to me by my employer as a large entity simply because my employer retains a shop right. Requiring independent small-entity inventors to file as large entities under such circumstances denies those inventors the ability to enjoy the provisions of Bayh-Dole and unreasonably requires them to incur the higher fees of a large entity. I believe this frustrates the original intent of Bayh-Dole.

I respectfully suggest an alternative process to trigger the large-entity status. I suggest that large entity status be triggered specifically only at the time that a true large entity actually begins commercial practice in an invention granted to a small entity. Under such a process, an employed inventor filing on his/her own behalf on an invention released by his/her large-entity employer may legitimately file as a small-entity. If a small-entity inventor's large-entity employer actually begins commercial practice under any related patents granted, only then would large-entity status be triggered. I believe this is consistent with the process for true independent, small-entity inventors with no large-entity ties—if such a small-entity inventor licenses to a large entity, the entity status must be changed to that of large entity. Therefore, this proposal should result in no significant additional administrative burdens on the PTO.

Additionally, if an inventors large-entity employer actually begins practice under its shop right or other arrangement, that large-entity employer, rather than the inventor, should be made responsible for all large-entity fees specifically precipitated by the large-entity practice. The inventor would remain responsible only for the small-entity fees. This would assure that the various fees actually vest to the agent that enjoys the value added related to such fees.

I believe that this method of triggering entity status and of vesting large-entity-status fees better implements the intent of Bayh-Dole than is provided under present interpretations in the patent process. However, if this suggestion is considered, care must be exercised to assure that large-entity employers cannot use this process to simply shield themselves from large-entity fees where such fees should reasonably be applied. For example, a large-entity employer could delay demanding assignment at the time of its filing of a patent, in which case the patent would be technically "owned" by the inventor, but have language in an employment agreement or other enforceable policy, including state statutes and common law, that any such employee-owned inventions must be forcibly assigned to the employer on demand. Such a legal maneuver would dearly be contrary to the intent of Bayh-Dole and frustrate the intent of the process I have proposed here.

Maintenance fees are a particularly onerous burden on inventors pursuing patents privately by their own resources. Since independent inventors generally have very limited resources, it may be several years before they can successfully enjoy any commercial practice of an invention. Again Bayh-Dole provides some relief to small-entity inventors in terms of reduced maintenance fees. However, even such reduced fees can still be so significant to a struggling small inventor as to force the inventor to prematurely abandon a patent thereby allowing its intellectual value to sadly slip into the global public domain. If enough such intellectual property is allowed to escape into the public domain, our national competitiveness could be compromised by our own innovations. We could be the very instrument of our own technological demise!

I do not suggest that maintenance fees for small entities be eliminated, but rather that they be delayed. I respectfully suggest that in the case of small entities, payment of all maintenance fees on patents be delayed until actual commercial practice of any inventions related to such patents. This would relieve the small entity of the burden of periodic maintenance fees, hopefully allowing better protection of our national intellectual assets, but still allow the PTO to enjoy the collection of maintenance fees when an invention is actually commercially practiced. Again, I cannot see that this would significantly increase administrative burdens on the PTO. Further, it will not significantly reduce maintenance-fee revenues since in the cases affected, the patents would have simply been abandoned and no fees would have been collectable. My proposal could actually serve to increase maintenance-fee revenues by increasing the universe of patents on which maintenance fees could potentially be collected. Once a patent is abandoned, there is no possibility of collecting additional fees. But if maintenance fees are delayed for small entities allowing the small entity to more economically maintain a patent in force, that patent remains a potential revenue source for the PTO until its expiration.

Finally, many contemporary technologies are very fast moving, but the protections afforded under the present patent process are much too slow to provide effective protection. Under the present system, innovators must make a difficult choice between timely market entry and competent intellectual-property protection. In general, timely market entry is the driving parameter since eventual protection is of no value if the critical market opportunity is missed. This could result in valuable national intellectual property being allowed to escape into the global public domain. Some property, such as software, can presently be somewhat protected under copyright process, but the registration period can still be lengthy, and the period of protection provided is often far in excess of the useful lifetime of the property protected. That frustrates the original intent of "securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." Fast-moving hardware technologies have no "high-speed" means of protection. And some fast-moving technologies have no means of protection at all—the intellectual essence of a neural network for example. In the present global environment of very fast-moving technologies, we must at a minimum design new means of intellectual-property protection which provides for very rapid registration and timely protection—timely in terms of both rapid access to the protection for the property and a protection period consistent with the lifetime of the property protected.

In conclusion, I respectfully suggest that four changes to the US patent process be considered:

1. Have large-entity status triggered only at the time that a true large entity actually begins a commercial practice of a patented invention.
2. Have all fees specifically pertaining to large-entity status vest specifically to the large entity.
3. Delay payment of all maintenance fees for small entities until actual commercial practice of a patented invention.
4. Implement a new protection means for protection of intellectual property engendered in fast-moving technologies that provides a mechanism to effect rapid protection with a protection period consistent with the lifetime of the intellectual property protected.

Thank you for your valuable time. If you have any further questions, I will be happy to try to answer them for you.

TESTIMONY

MAURO G. TOGNERI

VICE PRESIDENT

MTS SYSTEMS CORPORATION

BEFORE THE

UNITED STATES HOUSE OF REPRESENTATIVES

SCIENCE SUBCOMMITTEE ON TECHNOLOGY

ON

THE PATENT SYSTEM AND MODERN TECHNOLOGY NEEDS: MEETING THE CHALLENGES OF THE 21ST CENTURY

JUNE 6, 1996

I am pleased to testify on behalf of MTS Systems Corporation. My name is Mauro Togneri. I am a Vice President of MTS Systems Corporation responsible for the Measurement and Automation Group. I am a member of IEEE and an inventor.

MTS Systems Corporation is a 250 million dollar corporation with plants in the United States, Germany, and Japan, and sales offices throughout Europe and Asia. MTS Systems Corporation manufactures computer-based testing and simulation systems for determining the mechanical behavior of materials, products, and structures, and measurement and control instrumentation products for the automation of manufacturing processes.

The Measurement and Automation Group includes three companies in the United States, Germany, and Japan, and sales offices in Hong Kong and Italy. The group manufactures high technology sensors, servo motors, and controllers for machine automation as well as liquid level measuring instruments for petroleum storage and distribution, chemical, biotechnology, food processing plants, etc.

MTS Systems Corporation and the Measurement & Automation Group maintain their leading positions within their markets by deploying and constantly improving their core technologies and competencies worldwide. The protection of intellectual property is considered vital to our ability to maintain the performance and efficiency that allow us to successfully compete in the world markets. A substantial amount of resources are dedicated to protecting our trademarks, and obtaining copyrights and patents in several countries. The cost of the protection has escalated over the years and today is a substantial part of our operating expense. We estimate the cost of protecting an invention in 8 countries in Europe and Asia with patents that have a life of 17 to 20 years at $100,000. A substantial part of that cost is in translation to different languages and in maintenance fees. Prosecution of an infringement can easily run into several hundred thousand dollars.

We believe that the writers of the Constitution of the United States wisely called for Congress to promote the progress of science and the useful arts by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries. Since the Constitution was written, there have been many changes in our patent and copyright laws as well as the implementation of trademarks, trade secrets, and maskworks. These laws seek to protect inventors' and innovators' intellectual property.

However, the increase in product complexity, the fast pace of technology, and the globalization of trade require that new laws be considered if protection for U.S. inventors and industry's ability to compete globally is to be maintained. The three areas of concern are:

1) The protection of products that do not warrant the cost and time needed for a patent

2) The problems associated with protecting software and other fast moving technology

3) The costs associated with foreign patents

The Patent and Trademark Office is constantly trying to improve their performance in providing protection to inventors and with the help of technology, the quality of patents has improved along with the reduction in prosecution time. Multilateral and bilateral negotiations have improved the ability of U.S. inventors to protect their intellectual property abroad.

However, the ever increasing pace of technology and the leverage that machines provide innovators are increasing the pace at which intellectual property is generated to the point that the current forms of protection are becoming less effective, more difficult, and expensive. Instant worldwide communication and low cost transportation are facilitating the exposure to and increasing the probability of products being copied and ideas being misappropriated. Software, as well as many products, has a life span measured in months, and the time currently required to determine if a patent is obtainable may well exceed the product life and make the investment in development or deployment too risky. Copyright protection of software is constantly being redefined and questioned in the courts. Owners would like to have patent-like protection, while entrepreneurs want the freedom of dissecting programs to design compatible products. In any event, the 17 or 20 years life of patents and the 100 year protection of copyright, while adequate for turn of the century technology and conventional expressions of ideas such as literature, art, and music, are not consistent with the life span or the type of fast-moving technologies they are trying to protect.

We see several areas where the current forms of protection are, or will soon become, inadequate to keep innovators in our company and the country on par with those of our global competitors. We feel that to safeguard the well-being of US. enterprises, individual inventors, and the ability of the country to compete successfully, new forms of intellectual property protections are needed.

1) Protection of products

Of the large number of products introduced in the market today, many contain innovation but cannot be patented; or, because of their life span, do not warrant the expense or the time involved in determining if patent coverage is possible. These products are vulnerable to direct copying, adding to the already risky process of recovering the cost of innovation. The copy may not look like the original but still may be essentially a direct copy. The electronic industry and products containing electronic circuitry are particularly vulnerable as the similarities are only obvious to someone with considerable knowledge in the specific field. Many of these products do not warrant patent protection because the patent may take longer to issue than the effective life of the product. In addition, rapid development by competitors demand that products be introduced into the market without waiting for the patent to issue or even to determine patentability.

2) Fast-moving technology

A method of protecting products for a short period by registering them would greatly reduce the cost to the innovators and allow recovery of development cost before competitive products increase the risk. Coverage could be for 3 to 5 years, and determination of whether copying is involved could be by an expert tribunal rather than an adversary judicial process that requires costly education of the participants.

In addition, we believe that fast moving technology such as that involved in the design of microchips, computers, software, and any technology that is driving product life cycles from a few years to a few months, is not served well by the patent or copyright protection presently available. The pace at which new art is generated constantly outstrips the ability of whatever system is used to search it; and unless protection is obtained quickly, its usefulness is questionable. The cost of protecting the large number of innovations generated by fast-moving technology with patents can quickly outstrip the ability of industry to pay for it. If infringement is suspected, prosecution costs are even more prohibitive and the delays encountered in the legal process often exceed the life cycle of the product. The effect of high costs is a lower level of protection and vulnerability on the global market.

3) Cost of foreign patent coverage

Finally, there is an immediate need to reduce the cost of global protection. The world markets are growing faster than the U.S. market, and international protection is now a necessity. As noted above, we estimate the cost of patent coverage in only eight countries is $100,000 over the life of the patent. A third or more of the cost is within the first three to five years when translations have to be done. We would prefer to maintain our just supplanted system of term after patent issuance (instead of filing), and of publication only after issue. However, we realize that harmonization between countries will be the first step to a global patent not requiring translation and foreign filing, and prefer a reasonable compromise to the current situation. We believe that publication should not be until the date of issue if the patent is U.S. only. Until new protection for fast technology is available, we need the ability to maintain as trade secrets an invention for which a patent cannot be secured.

Thank you for this opportunity to testify before this subcommittee on such an important issue that we believe is vital to the well-being of our industry. I would be happy to answer any questions you may have.

Mrs. MORELLA. And so I think maybe what we'll do is just pose one question to you, let you respond, and then go on with some other questioning.

I wondered, how does the time, cost, and complexity of obtaining patent protection under today's practices affect your ability to protect your intellectual property in the marketplace, particularly where the time from development through market life is measured in months, or three years at most for many advanced technology industries?

I'd love to have you comment on that, comment on also what improvements you think the system could utilize. And having had the advantage of hearing Commissioner Lehman, you may want to respond to some of the statements that he made, or questions that we asked of him.

So maybe I will start with Mr. Ostfeld.

Mr. OSTFELD. Okay, as the blood rushes back to my face from not having to worry about a speech that I hadn't really—

[Laughter.]

Mrs. MORELLA. You had very good testimony in here.

Mr. OSTFELD. But I would have tried.

Let me speak—let these two gentlemen speak about specific technologies, for example—and go more to the generic area.

I think as we've heard Commissioner Lehman speak, and also some of the representatives, such as Representative Walker, entrepreneurship is at a high premium in this country. To be frank with you, I think the premise of our entire intellectual property system is that U.S. persons can be more entrepreneurial, can be more innovative, probably because of the way our society is put together, than most other places.

We seem to work that way. Wherever there's a niche, wherever there's an ability to put innovation at a premium, and where you don't need as much capital, you tend to see Americans profiting from the venture.

I don't know why they're put together the way they are, but American engineers just have that kind of a feel to them.

So what's the problem that we're facing? The problem is that, even if you're just putting in your sweat equity and not too much money, there's always a cost to being innovative. Once you've established your little company and it's running along, there's a bigger cost to being innovative. And you have a risk associated with that cost.

And the risk is that more of your funds proportionately go into product development than perhaps they do in larger entities.

So the other issue is, okay, I'm innovative. How do I get to the marketplace? Well, in the old days, maybe you had some luxury of product introduction. Today you don't have that luxury anymore. The technology is moving too fast. It pushes you along. If you don't introduce your product at the right time, it's going to be obsolete.

So you don't have any choice. You can't wait for your patent to issue before you have to go to the marketplace. You've got to go to the marketplace when the marketplace demands, and now that's a global marketplace demanding you to get there.

Well, in this case, I think the danger, and one of the things we see—answering your first question—the danger is copying. In industry, copying is not the highest form of flattery. As a matter of fact, it's downright deadly, especially if I put in my development costs, and the other fellow can come into a market that isn't going to last more than 18 months to five years, can get in there before any effective intellectual property coverage occurs, and copy what I have.

I'll be the last one, not the first one, in the marketplace, because, despite my innovation, I had to pay for the innovation. All they had to pay for is copying it.

So the issue in my mind, first, is to protect our innovators, at least in the United States—give them a base market here that they can work from, where they can re-establish themselves, and where they can take in the money that they have introduced for innovation before their competitors get in.

So one of the things we're going to talk about—to some extent we've talked about it in our testimony—is to try to work out a portion of our system that is very fast in terms, right now, of getting you some protection; and basically says to your competitors, "Don't copy the device. You want to be in the marketplace? Independently develop."

Get on a level playing field, because if you independently develop—okay, I've donated the idea. Now everybody can see, hey, you know, that does really well in the marketplace. But they've got to at least put in their own development time and money, so that the costs equalize. And that also gives that first person who came up with the idea a little lead time in the market to get established.

So in answer to that, that would be really the first question—answer that I had, as opposed to, what other things could Commissioner Lehman be doing with the patent system, which I might want to postpone until these fellows have had a chance to remark on the first question.

Mrs. MORELLA. That's very helpful.

Mr. Gruchalla?

Mr. GRUCHALLA. Yes, from my position as a small inventor, I have a couple of comments.

First, speaking to the specific question of time, with fast-moving technology, very often we as small inventors have to make a tradeoff between competently protecting the product, or making a timely market entry. And in these short-lived products, timely market entry has to win.

With respect to costs, even some large companies, my previous employer as an example, did not see that the cost of obtaining a patent was consistent with the unknown value of the patent. And they did not aggressively pursue patents. My present employer does. But there is a definite concern for the overall total cost of the patent, both for the small entity and the large entity.

With fast-moving technology, it's very difficult to even know how long it's going to last. I mean, the 486 microprocessor today, which we think came out yesterday, is already eclipsed. Egghead Software can't even keep the current issue of a piece of software in stock, much less worry about how long it's going to live.

So the time is very critical. We need some means of providing very rapid protection. And the cost is also critical. We need to figure out a way to make the cost of obtaining a patent more consistent with the overall value of the patent in the market.

Thank you.

Mrs. MORELLA. Mr. Togneri?

Mr. TOGNERI. Okay. To put in context what I'm going to say, I represent a company that has about a little over 1,000 employees. And we have a strong presence in Europe, in Japan, and in the U.S., obviously. And we have offices in countries throughout the world.

I run a group that is about a fourth of that size. And our company is somewhat unique. The name is MTS Systems, Inc., based in Minneapolis, Minnesota.

It is somewhat unique in that some of the divisions we have started out as entrepreneurs, with sales of less than half a million dollars. So we see a little bit of everything.

But basically, because of the makeup of our products, which are all basically high-technology, intellectual property—is very vital, and we see it as that.

And so, probably at the top of the list is the cost, because protecting our intellectual property has become now something that we can actually put on the PNL, on our profit and losses, is competing with other costs, like selling and those sort of things.

Probably the biggest part of the cost for us is covering the patent in foreign countries. We estimate that a patent today, over its life, will cost us about $100,000. Commissioner Lehman said it was $88,000. So we're pretty close in our estimate.

A third of that is spent in obtaining it. And translation is a big part of it. The other parts are generally maintenance fees, that escalate in many countries.

Now, there are a couple of other things that, since we deal with fast-moving technology, as an example, one of our product was replaced—we replaced it intentionally three months after the first product was introduced.

There is an issue of timeliness. When we develop new products, we have two conditions. Sometimes the product isn't really significant enough to go through the patent process. It's not earth-shaking; it's just a new product, with some clever ideas and some innovation in it.

We really have no way to protect it. Our competitors can copy it. And this has happened to us. Competitors overseas have taken our product, and basically produced something very similar to that, almost identical, in some cases identical. And there was no way for us to really protect it because the cost and the time of a patent, that it takes to get a patent, would have exceeded the value of the patent in the final analysis.

So we're interested in something that David Ostfeld said, some way of protecting things quickly that are not necessarily fundamental changes in science or anything like that.

And the other thing is, the time it takes to get patents, we'd like to decide when we have a product and we're developing it, whether we're going to patent it, or keep it as a trade secret.

So we need to know if a product can be covered by statutory coverage somehow, a patent or whatever it is, before we release it to the public, because if in fact we can cover it, then we want to keep it as a trade secret.

Mrs. MORELLA. Apropos of what you have all said, can we work within the present patent system to make any needed changes that you think would be important? And what would those changes be? What kind of changes would you suggest, beyond those which you've heard, the re-engineering that you heard today from Commissioner Lehman?

I know that Chairman Walker wanted to be here to hear your testimony, and to be able to ask you to respond to some of those concepts. Please know that other members of the Subcommittee will have the benefit of your full testimony as well as response to questions.

So this is your chance to give your critique of how you would change things.

Mr. OSTFELD. I guess I'd start first again.

Mrs. MORELLA. We'll mix it up afterwards.

[Laughter.]

Mr. OSTFELD. First, I think Commissioner Lehman is doing an outstanding job, and I don't want to be considered to be a critic of his. With what he's got for the tools, he's running as well as he could run.

There are different approaches, and I'm not sure that some of these wouldn't be more appropriate ultimately to the goals that we have in this country, although they might be considered radical in nature.

For example, we have a stylized application format. One of the costs we seem to be involved with is, if I can use that word, attorney time.

You know, somehow this guy who knows exactly how it works has to go through this middle man who's been out of school about 25 years, to teach him or her how it works so this person can then tell the Patent and Trademark Office, "See, this is how it works."

Now, it seems to me that if we got away from some of our stylized system, and gave more free access, as we're starting to on these provisional applications—but more free access to the person who knows how it works, and the office, and start cutting out some of the middle men criteria, we might be [A] more cost-effective; [B] get a better application in that educates the people that gets the 17-year exchange—sorry, 20-year now from data filing—for the benefit that we give to that inventor.

So that would be, for example, my first suggestion.

Another one—by the way, that also improves speed a whole lot, if I can just send in what I know will enable someone skilled in the art to build the device.

Number two, dollars. The Commissioner said, "We've got enough money, if we could keep it." And I agree with him. He should be able to keep it. But, the question is, from whence should it come?

Perhaps what we need to do is focus more on the users, the real users of the system. The real users, I don't think, are the customers, the applicants, to a large extent. They're the people who use those final patents. And so the place to get the money, in my estimation, is on the people who are saying, "Hey, that's a patent that's really important."

Now, part of that could be, for example, most patents have at least one to two assignment periods, and maybe we need a graduated assignment system, and move away from the annuity system, because the annuity system goes straight across the board to all patents at issue, as opposed the people who are really heavily using certain of those patents and who can afford more.

Number three, this is one that's sort of close to the IEEE's heart. Entrepreneurs are funny kind of people. We ran an experiment to try to figure out whether or not we could convert people in corporations to entrepreneurs in corporations—give them a cut of the action, but tell them, "Hey, you've got to stay late for your cut. You want to innovate something, go ahead and innovate it, and we'll give you a piece if it gets to be a product line, and schedule."

As a matter of fact, Mauro's company tried this out. And what they found were, most employees of companies aren't those special breed of people. Many of them are innovative, but they're not entrepreneurs—innovative within their product line.

And so, what we're suggesting is, maybe we need to draw lines where we can encourage entrepreneurs and innovators to be able to start a second business, or start their own business, and be able to say, "Look, this is the company's business, but let's not have the company over-reach in wanting everything the employee does."

That might be a good idea—not up yet.

Cheaper protection—one of the things we have wanted, one of our greatest goals is to eventually get a worldwide patent. WIPO was headed this direction. I agree with the Commissioner's logic on why he stopped that and moved to a different direction.

But ultimately, what we'd like to have is, I prosecute in the United States, and I can register everywhere else. And it's not too expensive, because as you heard Mauro say, $100,000 per patent—and he was only talking about eight countries—is a gargantuan amount. Nobody's going to be able to fork up that kind of funds.

We have to think, if we're going to think in a global economy, how do we have other countries agree with us that what we need to have is a more streamlined validity process?

Once you go to that, then you might want to start attacking a fundamental premise in the way we paradigm our system, and everybody else does the same thing. The paradigm is, you file an application. It gets examined for all purposes. And eventually it gets issued.

What's the problem with that picture? Well, the problem is, maybe 10 percent of all the patents that are issued ever have any value commercially, other than as prior art in the patent office. And of those, litigating them, there's maybe a small percent, 20 percent of all the good patents, get ever litigated.

So why are we spending all the time in the front end of the process? Maybe we want to shift even the patent office system more towards a registration/novelty approach, and then when it gets down to the real time when people care about this patent, when the public can also participate in the process, get down to the issue of, is it un-obvious to one skilled in the art? And have that a back-end process at a much higher rate and much higher fee.

Again, I'm saying to you, these are sort of radical ideas. I'll frankly throw in one because it was asked.

I think part of what Representative Rohrabacher said was appropriate. There are a lot of patents, because of the expense, that never get out of the United States. Sure, a lot of people are in the international market. But there are a lot of those that aren't in the international market. I mean, they can barely afford to get it in the United States and pay their patent attorney. And many times, as I know, they don't.

But the key is to go forward and try to find a compromise. We suggested one to Representative Rohrabacher and the Commissioner which we might still be willing to pursue that dealt with the ability of making sure that the Patent and Trademark Office produced within the time periods the Patent and Trademark Office is saying it will produce in, and otherwise, give the inventor a little more time.

This is not to say, go for a submarine patent. This is just trying to say, "Look, let's make sure the inventor has an insured period of time, as long as the inventor is willing to prosecute."

It may mean that instead of having—you may have abusers who can get three or four years out of the system instead of 18 months, if they want to abuse the process, in order to pay the freight on the other end.

But maybe that's worth it for a lot of the American customers that we have whose whole database, whose whole customer base will be in the United States.

I'm sorry. I waxed eloquent on that one.

Mrs. MORELLA. You did. You got carried away because you have such good ideas. I think you've really thought about these pretty deeply. You're also talking about sort of like a benefit assessment, in terms of what the benefit would be—very informative. We appreciate it.

Mr. Gruchalla?

Mr. GRUCHALLA. This particular question is probably more legally oriented than technically oriented. And I have no legal background so I can't speak to any of the legal ramifications.

But as a small inventor, a couple of the comments that Commissioner Lehman made were very important. Electronic filing of patents was very important, and the electronic publication of patents, especially if the new patents and all of the historic patents were available on a distribution system like the Internet, so it's available to all of the pro se filers such as myself, essentially at a moment's notice.

This would be very important to people like me that have to do our own investigation of the prior art. Right now, it's very laborious, and there aren't that many patent repositories where we can go and do our own investigation.

And if we had Internet access where you can do key-word searching and this type of research, it would be excellent. And the electronic filing would speak directly to the timely publication and the timely issue of patents.

Mr. TOGNERI. First of all, we have benefitted as companies. And I also am a member of IEEE, so I wear a couple of different hats.

But as a company, we benefitted from the improvement that has been made in the Patent and Trademark Office. So without taking a lot of time, we are very happy over things that are happening there, speed being a very important part.

The second thing, as far as working within the office, it's very important for us that they expand their negotiations with other countries so we can get a more uniform coverage for less money.

And addressing a little bit what David was talking about, about the charging for the patents, cost, and for the patents, when the patents acquire values, I'll have a little anecdote.

The last time I was testifying in front of this committee, I said that when I mentioned to my friends that I was coming to Washington to testify, they said, "Are you in trouble? What have you done?" So this time, I said, "No, I'm going to testify on intellectual property." And they said, "Just like the government. They get an electrical engineer to testify on real estate."

But there is some truth in it. And that's what David said. And I think as a company we see that. We would much rather pay a higher price on a patent that has value, maybe when it's transferred, than pay the same for all patents.

So I think there is some merit to that, although it's radical.

Mrs. MORELLA. It's hard to determine that value assessment in terms of whether it's valuable today. What about tomorrow? Of course, maybe it could be several years from now.

Just picking up on, I guess segway, to continue with you, Mr. Togneri, I'm interested—you said $100,000 is what it costs over the life when you're dealing with other countries, the European and Japanese.

Mr. TOGNERI. Yes.

Mrs. MORELLA. What measures are being taken or considered to coordinate our national and international system in order to allow for something like one-stop shopping that would indeed reduce the price, the time, be more of an incentive? Is it being contemplated? And what can be done?

Mr. TOGNERI. Now, David can probably address the technicality associated with that. From our standpoint, from the business standpoint, what we're seeing is a drive by Commissioner Lehman and others in the business to harmonize, to basically go to the other countries, because our market is still the largest in the world.

And so we have leverage, in that other countries want to get patented here. And that's one of the reasons we're seeing, as the Commissioner was saying, that other counties have the patent—they're lower, and ours are growing, because there are a lot of applications coming in from foreign countries.

There is a drive to say, "Look, we're going to modify our system some to match some of the other systems." But in return, once the systems are more similar, now we want to also say that we can file a patent in this country, and in effect that patent is going to be accepted by other countries.

And later on, if there is infringement, and the patent is worthwhile—and this addresses back, let's pay when the value is established— and the person that has been infringed wants to go prosecute it in a foreign country, then we might do some of the translation, and all the other stuff, that now it's up front, that we have to pay, that one-third of the 100,000, that we have to pay in the first four or five years.

Mrs. MORELLA. Should something like this be incorporated in trade agreements?

Mr. TOGNERI. Well, I think that's the avenue by which we can do this. However, the results or changes in the system that have to accompany this, so that we have a way to compare these different patents in different countries.

And like I said, the technical side of it, really Dave can answer better than I can, as to what the differences are and why it would be difficult today to just have a common patent that can be applied here or in Germany or Japan or other places, and be valid in all countries, with translation and all the mechanics that go into getting a patent today in foreign countries, occurring if that patent in fact acquires values and is then infringed upon.

Mr. OSTFELD. If I could respond, first with a vignette.

When I first started doing this volunteer work, we had somebody from—it was the State Department—visiting us talking about bilateral treaties. And he had this marvelous story about negotiating with the Mongolians.

And he said, "Look. We went there and we were in a tent. And we showed them the intellectual property part, this group that was doing that. And they looked at it, and they said, 'What?' And we said, 'Well, look, we've got to go over this,' and we went over the first page.

"And they said, 'Listen. We've got goats out there we need to take care of. Can't we get this thing done? We'll do it some other time.'

"'No, no,' he said. 'We've got to establish a patent office, et cetera.' And they looked around, and they talked to themselves for 10 minutes. And then they came back and said, 'Okay.'

"'Good,' we said. Now we can go on to page 2. He said, 'No, no. Whole thing's okay. We've got to take care of the goats out here.'"

A radical proposal—why do we have to just service the United States, since it's user-driven fees? Can't we service Mongolia and other countries? Part of obtaining consensus is having people who are consenting.

And in my estimation, there's a lot of small countries that might be willing to do almost anything if they didn't have to put the taxes and the money in to make their system operate, and get a first-class system like ours that come at the same time. They might even go with the English prosecution.

If you do that, and then you start making your deals with the European Patent and Trademark Office and the Japanese Patent and Trademark Office, the only two big ones anyhow that you have to deal with, as Commissioner Lehman said, and maybe that way, as well as trade agreements and other things—maybe we can in fact get to a common basis.

From our point of view, there were not a lot of members who were really excited about 20 years from the date of filing and publication and all the rest. But they'd give up almost anything to get a uniform system and cut the cost of foreign coverage, because we know we're in a global economy. We know we've got to have that coverage in order to protect ourselves and get more into those foreign markets.

Because that's really where our lifeblood is. We can't feed off ourselves. We've got to have an exporting economy. And to be frank with you, the way you buy peace in the world is, people trade with each other instead of shoot at each other.

So we're very interested in anything that would cause that harmonization to occur.

Mr. TOGNERI. And there's always the Marines.

[Laughter.]

Mrs. MORELLA. Did you want to comment on that, Mr. Gruchalla?

Mr. GRUCHALLA. No. I think David pretty well summed up anything I would have to say.

Thank you.

Mrs. MORELLA. I'm going to have a couple of more questions. But before I do, I wanted to turn to Mr. Gutknecht and allow him to pose any questions or statements that he wanted to.

We didn't do oral testimonies. They're in the book. We just kind of jumped to some questioning.

Mr. GUTKNECHT. Well, thank you, Madame Chairwoman.

I'm sorry I missed part of the discussion. But I think what I've heard so far has been extremely productive and instructive, and I appreciate your coming before us today.

And I don't want to over-work this one subject. But we are sort of wrestling with this—publication. And I think you're right, Mr. Ostfeld, that a lot of people don't care about it. But a lot of people do care an awful lot about publication.

I'm wondering, can you offer some observations in terms of the big guys versus the little guys, eating up the publication versus keeping the status quo? What's your basic read on the whole issue?

Mr. OSTFELD. I think that it isn't necessarily big guys versus little guys. Let me defend or present a statement that I think would have been meant—would have been given by the fourth person who was supposed to be on this panel, but did not come today because he had a bad back.

And he would have said, "American business hates more than anything else surprise." And submarine patents are surprise.

And to be frank with you, if he'd to trade, he'd have traded 17 years for the publication, because surprise was worse to him than letting somebody get a couple of extra years on their patent. As long as he knew what it was, he was all right with it.

Number two, I think there's a segment of our operation that is not benefiting very well from non-publication. And that's our government patents, because our government can not pay money for foreign average. So they don't file them foreign. I mean, we're a big country. We don't file foreign. So what good are the U.S. patents that we're generating for an international business?

The ability—and I understand this is a tough issue to deal with, what is a "American" for purpose of being able to license from the U.S. government. But the ability of getting American industry to look at applications of the U.S. government, especially if it were now on a published basis so that it's not a big problem, and to be able to help decide on foreign coverage, even in advance of real publication in 18 months, might be also an excellent thing to be done.

The drawback, to me, on publication is simply one thing. If you publish, and the application stalls in process, there's a problem. If you publish before you really know if you've got something, it's a problem. And so I think those two areas need to be addressed. Commissioner Lehman's projections on the ability to know something before you publish are, I think, a little aggressive. I think he can eventually reach that, but not reasonable—reasonably short period, term.

I think that Representative Moorhead's amendments in the new omnibus operation may work to some extent. I think there are some other compromises that could be cut, especially if I'm not going to file foreign, and therefore my 18 months isn't ever going to appear from a foreign application.

Mr. TOGNERI. From a middle-sized industry, that is probably the biggest concern we have. We don't have a problem with publication because we don't like surprises either.

But we would like to have assurance that we can make the determination, because many, many times in our handling of intellectual property and strategizing how we're going to compete on the world market, we have to make the decision. Do we patent, or do we keep it a trade secret? And once it's published, the trade secret alternative is gone.

Mr. GUTKNECHT. Well, I would just say then that I would hope that you would continue to be part of this discussion on this issue, because as I say, I think that all the parties are—I believe they're all operating in good faith. I think they all have the same goals. But they seem to be developing to somewhat different viewpoints on, how do we get to those goals?

I'm particularly interested in whether or not we think that the 12 months is really doable, and if so, when? I just don't want to jump before we know exactly where we're going to land.

I have no further questions, Madame Chairwoman.

I do appreciate your coming. I think this has been a good hearing. It is a very, very important issue for this country and this economy as we move forward at pell-mell speed into the Information Age.

Mrs. MORELLA. Thanks, Mr. Gutknecht. I appreciate your being here.

I wondered about the 12 months myself when Commissioner Lehman mentioned it. And then prior to that, he had said, "Well, you know, you really can't set a time limit on it. It might take longer for some, and it might be shorter for others." I don't know if you want to make any comments on that.

Mr. TOGNERI. Well, we would like to see sort of an exit hatch, or a safety hatch. If in fact the thing is delayed, we would like to see publication delayed. And if we elect to stay—and I think Dave already covered that. If we elect to stay in this country, and say, "We're not going to go foreign; the market here is big enough," then we would like to be able to say, "Well, no, we don't publish then until the patent issues."

By the way, the decision of whether we stay in this country or go overseas is becoming more and more difficult because the overseas markets are growing faster than ours is at this point. So we're seeing the decision to go overseas becoming more and more a decision that has to be made in the positive way.

Mrs. MORELLA. And that's why, of course, if we could do something to kind of harmonize, as you say, this would really be a boost for our competitiveness, something that I hope our Congress will continue to work on.

Speaking of that, and speaking of the legislation that has been alluded to so often during this hearing, actually if a new form of intellectual property were to be implemented by legislation, how would it differ from the present law?

Then I wonder if—I don't know whether you know the Moorhead bill they pulled together that well, whether you want to then use that as another, a parallel track with which to compare how you would change things—does that bill do it? Would you bother to change things in terms of intellectual property legislation?

Mr. TOGNERI. Well, we see a need for that. But I think David can probably answer much better, because I'm not a lawyer. And so therefore, the intricacies of how you apply this new protection, or how you test it, are very difficult for us. We do see the need from industry.

Mrs. MORELLA. You do see the need——

Mr. TOGNERI. Yes.

Mrs. MORELLA. (continuing) in terms of the scope of the protection and prior user rights, and the interests of small businesses and individual inventors being protected?

Mr. TOGNERI. Yes.

Mr. OSTFELD. We——

Mrs. MORELLA. You're a lawyer, obviously.

Mr. OSTFELD. I'm a lawyer, obviously.

Mr. TOGNERI. Yes, it's obvious, isn't it?

[Laughter.]

Mrs. MORELLA. We always seem to defer to lawyers, when really what we're looking for is common sense. As someone who has been married to one for many years, I always say all you've got to do is just pull out a Latin glossary, you know, "habeas corpus," whatever, go on. And people think you know something.

But I think you do, Mr. Ostfeld.

Mr. OSTFELD. When my wife used to read the cases in the real estate part of my book when I was studying to be a lawyer—this is by the way while I was an operational engineer, so I really did things for awhile in my life—she used to say, "That's common sense." And then every once in awhile, she'd say, "That's really stupid."

Common sense-wise, what we're trying to say is, some of the things we're suggesting—and we only put one in our testimony. I think there are several different things that we could do. This one seemed most developed to us at the moment.

And that is to protect a product. If I have a real product, I'm ready to go to the market with it, then I need to register that product.

Now, if I do that, one, I want to make sure that I'm not overlapping copyrights. So it needs to be a useful product. I'm not going to use copyrights and overlap.

Number two, hopefully, whatever period of time it does take to get a patent, if it's worth obtaining a patent for, then I can prosecute that in parallel. And if the patent is about to issue, I then elect—do I want to keep this coverage of registration of my useful article? Or do I want a patent to protect me?

So what does the registration buy me, is the real question? The answer is, it buys me other people not imitating my product. And it's very short-term. We were suggesting three years, enough time to recoup the investment that you would have in the product.

And that's it. Be on a level playing field. Don't kill our little innovators, small businesses.

And so what we then suggested was, well, wait a minute. Where should we try this thing? Because you may or may not have read the millions of dollars that lawyers manage to get out of patent litigation cases, bless their hearts.

We suggested, let's try this administrative tribunal in this case. Let it be all self-sufficient. And we think we can price it so it could be. And what we would do is, we would have a judicial panel, but they would hire experts, outside of the government employ, people who were then current knowledgeable who can see this registered article, take a look at what the accused device is, and decide if there was in fact a knock-off going on here.

What's the defense? It's a perfect defense. You, the accused, show me your development drawings, in secret, okay? If your development shows a parallel development, that's it. You didn't imitate the device. You developed it on your own. That's all there is to it.

If however, you imitated, then you may have a damage position that funds what you did.

So relatively in concept, it's a pretty simple idea. What it does, one, it's a registration. You can't go up to the market before you register. So everybody, when you go to the market, can see your registration number and know when the three years ends, when they can start imitating your product.

Now, if it's a fast-cycle product, that may never happen. You know, that's part of the game. If it's a five-year product, then you'd better have a patent in there before the three years are over, or be on your level playing field, and have good pricing on your product. Okay?

And number two, the other part is, maybe we can cut the litigation fees down to $50,000 if we've got an administrative tribunal that comes up with a preliminary result.

Most people are sensible. Once they see they've got a loser, they've got a woofer, they're going to settle somewhere in the process. And that's why I then extended and said, perhaps on a patent system, eventually we want to fund, or have users fund an administrative tribunal on the validity issue totally, so that they scope out, what are the scopes of the claims, and when are you an infringer?

People, like I said, are sensible. Once they see how it's going to go and they feel they've been fully represented in the process, they understand when they need to cut and run.

So that's a very brief statement of what we're suggesting. It's very short-term. It's very much, don't knock off my product. We have other things when it comes to databases and the fact that our information system is going to flow much more than it ever has.

But I know time's getting short, and I'm cutting those guys off.

Mr. TOGNERI. I'll say it in two words. Sort of a cyber-jury for a cyber-world.

[Laughter.]

Mrs. MORELLA. We may look into that, you know, intellectually.

Mr. Gutknecht?

Mr. GUTKNECHT. Madame Chairwoman, I just want to pursue this. I mean, you mentioned time is short, and time is short. We're going to probably have a vote on the floor here before too awful long.

Is there any chance that this could be—I mean, have you talked to some of the principals in the Congress about possibly having this as part of the final package we vote on?

Mr. OSTFELD. We have talked to people about the—and as a matter of fact, since you asked, we have in fact drawn up what we call the Article Protection Bill, and have a history for it.

And we have in fact talked it over with Representative Moorhead's office. We have talked it over with several other people. We've presented it to Commissioner Lehman over a year ago to take a look at it. It has been at one time screened by people in the Copyright Office and the Patent and Trademark Office as well—as a matter of fact several people in the Patent and Trademark Office. It's been screened by other people, all the way back to Mike Remington, here.

But putting it in that omnibus bill, we have not talked to anyone about that. I feel that bill is controversial enough, to try to wend its way through before the end of this term, this might further complicate it. And it has some good points, and it needs to be considered to give it its best shot.

Mr. GUTKNECHT. Yes. I think the real question is, would the small inventors—would they support your notion?

Mr. OSTFELD. The ones that at least we know of, and maybe even—the question is, what is small? How many employees is small?

But the answer is, from the people we've talked to—and we have a bunch of members in our organization, like 220,000——

Mr. TOGNERI. Mike could probably address that, since he is a small inventor.

Mr. OSTFELD. That's true.

Mr. TOGNERI. You weren't here when——

Mr. GRUCHALLA. Yes, I would support this 100 percent because, from my position as a small inventor, I almost never pay the first maintenance fee because I can't afford the fees. So a three-year lifetime is probably all I ever see on an invention.

Also, this very drastically reduces the complexity. The filing could be pro se. I wouldn't need an attorney, or if I needed an attorney, it would be very minimal.

So from the small inventor's point of view, this is very attractive to me.

Mr. GUTKNECHT. But yet, you don't think this could—you sort of resist the idea of making this part of the final compromise or package, whatever? You think this should be a stand-alone bill?

Mr. OSTFELD. Yes. It's really a new form of intellectual property, although, to be frank with you, I think that it could be administered out of the Patent and Trademark Office, basically when you file your application, that it's also your registration.

And so now you have an interim protection term. And you have the people there who are used to that kind of stuff. And then you can elect whether I want to go forward with prosecution beyond that.

Mr. GUTKNECHT. I like the idea. I think this is a good interim step for particularly smaller items that don't have the market potential or whatever. Something else might.

Mr. TOGNERI. We don't know the legislative process well enough to really know how you would go about this. But we think it's an important issue.

Mr. GUTKNECHT. Thank you.

Mrs. MORELLA. Well, we will explore it in the Subcommittee. I know Mr. Gutknecht is interested in it. I'm interested in it, too. You already have something drafted. If you would share it with us, and then we'll check. And you already gave it to Mr. Moorhead. Maybe we'll also talk to him about it.

But I think it's worth our exploring, and maybe passing it around to some of the other inventors or those who use the Patent and Trademark Office, and see how they respond.

Mr. Gruchalla, what were some of your patents on?

Mr. GRUCHALLA. I have a patent that I've also prosecuted worldwide on large power amplifiers. Typically they would be used in applications like magnetic resonance imaging.

Mrs. MORELLA. Really?

Mr. GRUCHALLA. I have another patent that's U.S. only on a distributed transmission line for generating very, very fast signals. Then I have several that were prosecuted through my employer. One was an unusual optical device, again for generating very rapid or very fast optical signals.

And then a novel grounding system for instrumentation trailers. Grounding instrumentation systems is always a problem because the instrumentation ground is separate from the ground of the thing you're trying to instrument. And it's usually solved in an unsafe manner. This is a novel technique for solving it in a safe manner.

So those are the highlights.

Mrs. MORELLA. Most impressive.

It also seemed to me, when you mentioned the fact that you submitted, Mr. Ostfeld, this possible legislation or this idea well over a year ago, it sounded to me like it was going to go through that three-year review track that you mentioned.

[Laughter.]

Mrs. MORELLA. I want to thank you very much. Again, there may be some questions that the subcommittee will want to ask you. It will be within the next five days. And I appreciate very much your written testimony, your response to the questions.

Thank you very much also for your patience in terms of waiting to come aboard as a panel.

Thank you.

We are now adjourned.

[Whereupon, at 1:03 p.m., the hearing was adjourned, subject to the call of the Chair.]

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